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PALUDRINE IN MALARIA—CLINICAL OBSERVATIONS

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Paludrine is the most active of the biguanide antimalarials recently synthesised. In the oral test on *P. gallinaceum* in chicks reported by Davey (1946) mepacrine and quinine were found to be approximately equally active, while Paludrine was about 8 times as good as mepacrine. In the intravenous test, on the other hand, mepacrine and Paludrine were about equally active while quinine was found to be less active. Paludrine was also found to be effective against the exoerythrocytic forms of avian malaria and this activity is practically unique amongst antimalarial drugs, and in this respect Paludrine was found to be more active than the allied compound No. 4430 (Maegraith, Adams *et al*, 1946).

Clinically, its schizonticidal activity in human malaria, both experimentally induced and naturally acquired has been highly spoken of by various authors. Adams, Maegraith *et al* (1945) treated 157 cases of *P. vivax* malaria with oral Paludrine in dosages ranging from 10 mg. to 750 mg. twice daily for 14 days to 28 days. Clinical cure was obtained in all cases. Maegraith, Adams *et al* (*loc. cit.*) conclude that the effect of Paludrine on the *P. vivax* parasites and the clinical course of the disease were similar to that of adequate mepacrine dosage. In most cases the asexual parasites had disappeared from peripheral blood by the 4th day of treatment and the sexual parasites by the 5th day. There was rarely more than one rise of temperature above normal subsequent to the beginning of the treatment. Fairley (1946) has reported that he and his colleagues in Australia have obtained clinical cures in cases of trophozoit- and sporozoit-induced *P. vivax* malaria after the administration of single doses of 100 mgm. Paludrine. The authors have obtained similar clinical cures in naturally acquired *P. vivax* infections with single doses of the drug in doses of 50, 100, 200, 300, 400 mgm. The effect of any of these doses on the clinical course of the malarial attack is rapid and almost as fast as it is with multiple twice daily dosage.

22 cases of *P. falciparum* infection were treated with doses of Paludrine ranging from 50 mgm. 12-hourly to 600 mgm. 12 hourly for 14 days (Maegraith, Adams *et al*, 1945). The temperature became permanently normal in 1 to 4 days. Asexual parasites disappeared from peripheral blood in 1 to 4 days. The gametocytes were not affected by the treatment. Thus it appears that Paludrine has been found effective as a clinical cure against malarial fever in widely varying doses.

CLINICAL MATERIAL

In the present series 36 cases of malarial fever aged between 16 and 50 years were treated with Paludrine orally. In all these patients malaria parasites were detected in the peripheral blood. 12 more cases with clinical manifestations of malarial fever but in whom malaria parasites were not evident on examination of the peripheral blood, or blood was not examined at all were also treated with Paludrine orally. All the latter cases have been cured but they have not been considered in this paper. Of the 36 cases mentioned above 31 were patients with *P. vivax* infection and 5 were suffering from *P. falciparum* infection. 11 patients were treated as indoor patients in the Chittaranjan Hospital (A) and the rest as outdoor patients in the clinic of Messrs Bird & Co. (B). All the cases were cured with Paludrine except one with *P. falciparum* infection who required in addition one injection of quinine-bihydrochlor. gr.x intramuscularly owing to development of brain symptoms and was ultimately cured. Mostly doses of Paludrine used were (1) 300 mgm. daily for 10 days, (2) 400 mgm. daily for 7 days, (3) single dose of 300 mgm. but followed by repeated doses of the drug if the next rise of temperature was high or the number of parasites in blood not diminished. In most of the outdoor cases the total quantity of Paludrine for the whole day was taken in a single dose in the presence of the author till the fever subsided.

P. VIVAX INFECTION

Effects on temperature—The comparative effects on temperature by giving Paludrine to patients for one day, two days and three days respectively are given below in tabular form.

The results reveal that in these two cases there has been no effect on temperature on the first day of administration of Paludrine commenced before the onset of the paroxysm in 0·2 gm. and 0·4 gm. doses respectively.

TABLE I—SHOWING THE EFFECT ON TEMPERATURE AFTER USING PALUDRINE FOR ONE DAY (BEFORE THE ONSET OF PAROXYSM)

Cases	N. of paroxysms before Paludrine	Tye of fever	Quantity of Paludrine before paroxysm	Max. tem. that day	Max. temp. previous paroxysm	Total days of fever during course of Paludrine	Total quantity of Paludrine during febrile period
A_{12}	2 in hospital; several before that at home	Daily rise; intermittent	6 a.m. 0·1 gm. 12 noon 0·1 „ Total 0·2 „	105°F (6 p.m.)	104°F (6 p.m.)	4	1·2 gm.
B_{10}	2	intermittent rise on alternate days	11 a.m. 0·4 gm.	104°F (3 p.m.)	Not recorded	3	1·2 gm.

Conclusion—Out of the 17 cases, the temperature on the third day—

(*a*) became permanently normal—in 2 cases (11·8 per cent). They became normal after the first day's dose.

(*b*) was substantially controlled (temp. between 99°F-100°F) in 8 cases (47 per cent).

(*c*) was partly controlled (temp. 100°·6F-103°·6F) in 6 cases (35·3 per cent).

(*d*) was not controlled in 1 case (5·9 per cent).

Total quantity of Paludrine administered during the fever to a patient—

Maximum	Minimum	Average (26 patients)
2·2 gm.	0·3 gm.	0·96 gm.

Days of fever during the course of Paludrine—

Maximum	Minimum	Average (26 patients)
6	1	3·1

Average dose of Paludrine per day for a patient to control the fever $= \frac{0·96}{3·1} = 0·3$ gm. approximately.

Effect on temperature of single-dose one-day treatment with Paludrine—This treatment was attempted on 6 patients. In 3 patients (50 per cent) the fever was controlled by this single administration in 1 to 3 days. In 3 others (50 per cent) the temperature was fairly high above normal at the next paroxysm and further doses of Paludrine had to be administered.

A study of the effect of Paludrine on asexual *P. vivax* parasites in peripheral blood (Table IV) shows :—

A. 24 hours after commencement of the drug, out of the 12 cases examined malaria parasites

(*a*) disappeared in 1 case (8·3 per cent).

(*b*) considerably diminished in number (1 to 2)—5 cases (41·6 per cent).

(*c*) diminished but present in fairly large number (14 to 200)—3 cases (25 per cent).

(*d*) actually increased in number—3 cases (25 per cent).

NOTE:—Quantity of Paludrine taken in 24 hours before blood examination was 300 to 800 mgm. Increase in the number of parasites in group '*d*' corresponds with paroxysmal rise of temperature. First examination of the blood was done and treatment started on the previous day (day of quiescence).

B. After 48 hours, out of the 15 cases examined malaria parasites—

(*a*) disappeared in 4 cases (26·6 per cent).

(*b*) considerably diminished in number (1 to 3)—6 cases (40 per cent.)

(*c*) diminished (4 to 16)—5 cases (33·3 per cent).

(*d*) increased—nil.

NOTE:—Quantity of Paludrine taken in 48 hours before blood examination was 3 to 12 tablets of 0·1 gm. each (0·3 gm. to 1·2 gm.)

C. After 72 hours, out of the 6 cases examined malaria parasites—

(*a*) disappeared in 4 cases (66·6 per cent).

(*b*) present but in very small number (1 to 3)—2 cases (33·3 per cent).

NOTE:—Quantity of Paludrine taken in 72 hours before blood examination—10 to 16 tablets of 0·1 gm. each (1·0 gm. to 1·6 gm.)

D. After 96 hours, out of the 3 cases examined, malaria parasites disappeared from peripheral blood in all the cases.

Disappearance of parasites from peripheral blood was noted by regular day to day examinations in 12 cases.

Total quantity of Paludrine required for disappearance of malaria parasites (B.T.) from peripheral blood in a patient—

Maximum.	Minimum.	Average (12 cases.)
2·0 gm.	0·3 gm.	1·08 gm.

Total time required with Paludrine for disappearance of malaria parasites from peripheral blood—

Maximum.	Minimum.	Average (12 cases.)
96 hours	2 hours	64 hours

Average quantity of Paludrine given to a patient per 24 hours $= \frac{24}{64}$ of 1·08 gm. $= 0·4$ gm. approximately.

P. FALCIPARUM INFECTION

5 cases of *P. falciparum* infection were treated with Paludrine. In 4 cases the dosage has been 400 mgm a day (2 tablets of 0·1 gm. twice daily) for 7 days. In one case single dose of 0·3 gm. was attempted. In three cases the temperature gradually came down and they became afebrile on the 4th day. In one case on the evening of the 2nd day (after 6 tablets in 2 days) the patient became delirious and the temperature went up high (not recorded). Quinine bihydrochlor grs. X was administered intramuscularly and the patient improved. No further quinine was given and Paludrine was continued. The patient

TABLE II—SHOWING THE EFFECT ON TEMPERATURE AFTER USING PALUDRINE FOR 2 DAYS (PALUDRINE WAS STARTED ON THE DAY PREVIOUS TO THE EXPECTED DATE OF PAROXYSM)

Cases	*No. of paroxysms before Paludrine*	*Type of fever*	*Quantity of Paludrine 1st day*	*Quantity of Paludrine 2nd day before onset of fever*	*Total quantity of Paludrine in 2 days before onset of fever*	*Max. temp. 2nd day (expected day of paroxysm)*	*Max. temp. previous paroxysm*	*Total days of fever during course of Paludrine*	*Total quantity of Paludrine during febrile period*
A_1	2 in hospital, several before at home.	Intermittent, daily rise	0·3 gm.	0·2 gm.	0·5 gm.	104°	105°	4	1·2 gm.
A_3	2	Intermittent, rise on alternate days	0·3 gm.	0·2 gm.	0·5 gm.	103·5°	100°	6	1·8 gm.
A_4	2	Intermittent, alternate days	0·4 gm.	0·2 gm.	0·6 gm.	100°	104°	3	0·9 gm.
A_6	1	Intermittent, alternate days	0·2 gm.	0·2 gm.	0·4 gm.	101°	Not high (not recorded)	3	0·8 gm.
B_1	2	Intermittent, alternate days	0·4 gm.	0·2 gm.	0·6 gm.	99·5°	105·6°	2	0·7 gm.
B_6	1	Daily	0·3 gm.	nil	0·3 gm.	104·6°	103°	3	0·9 gm.
B_{11}	1	Alternate days	0·3 gm.	0·3 gm.	0·6 gm.	104°	(not recorded)	2	0·6 gm.
B_{23}	0	..	0·4 gm.	0·2 gm.	0·6 gm.	102°	101·4°	2	0·8 gm.
B_{24}	2	Daily rise, rigor alternate days	0·4 gm.	0·4 gm.	0·8 gm.	104·2°	102°	5	2·2 gm.

NOTE: It is evident that Paludrine commenced on the previous day did not influence the intensity of fever on the 2nd day in total doses varying from 0·3 gm. to 0·8 gm. in at least 6 out of 9 cases (66·6 per cent).

TABLE III—SHOWING THE EFFECT ON TEMPERATURE AFTER ADMINISTERING PALUDRINE FOR 3 DAYS [PALUDRINE STARTED AT THE HEIGHT OF PAROXYSM AND CONTINUED ON THE NEXT DAY (DAY OF QUIESCENCE) AND THE DAY AFTER (DAY OF NEXT PAROXYSM)]

Cases	*No. of paroxysm before Paludrine*	*Type of fever*	*Quantity of Paludrine 1st day*	*Quantity of Paludrine 2nd day*	*Quantity of Paludrine 3rd day before onset of fever*	*Total quantity of Paludrine in 3 days before onset of fever*	*Max. temp. 3rd day (expected day of paroxysm)*	*Max. temp. previous paroxysm*	*Total days of fever during course of Paludrine*	*Total quantity of Paludrine during febrile period*
A_2	1	Intermittent; alternate days.	0·1 gm.	0·3 gm.	0·2 gm.	0·6 gm.	99°	104°	4	1·0 gm.
A_8	2	do.	0·3 gm.	nil	nil	0·3 gm.	103·6	104·5	4	0·9 gm.
A_{10}	1	Intermittent; daily	0·3 gm.	nil	nil	0·3 gm.	99·6	103·6	3	0·3 gm.
A_{11}	..	Remittent for 2 days	0·3 gm.	0·3 gm.	0·1 gm.	0·7 gm.	101°	103·6	4	1·2 gm.
B_2	0	....	0·4 gm.	0·2 gm.	0·2 gm.	0·8 gm.	99°	104°	3	0·9 gm.
B_4	2	Intermittent; alternate days.	0·3 gm.	nil	nil	0·3 gm.	100°	103·6	3	0·6 gm.
B_6	0	....	0·3 gm.	nil	nil	0·3 gm.	98·4	105·4	1	0·3 gm.
B_7	1	Intermittent; alternate days.	0·3 gm.	nil	nil	0·3 gm.	103·4	105·4	3	0·6 gm.
B_9	0	....	0·3 gm.	0·3 gm.	nil	0·6 gm.	104°	102°	4	1·2 gm.
B_{13}	0	....	0·3 gm.	0·3 gm.	nil	0·6 gm.	99·4	102°	3	0·9 gm.
B_{14}	0	....	0·3 gm.	nil	nil	0·3 gm.	98·4	105°	1	0·3 gm.
B_{15}	0	....	0·3 gm.	0·4 gm.	0·2 gm.	0·9 gm.	102°	105°	4	1·4 gm.
B_{19}	0	....	0·3 gm.	0·4 gm.	0·2 gm.	0·9 gm.	100°	103·4	3	1·1 gm.
B_{20}	0	....	0·3 gm.	0·3 gm.	0·3 gm.	0·9 gm.	100°	102°	3	0·9 gm.
B_{23}	0	....	0·4 gm.	0·4 gm.	0·2 gm.	1·0 gm.	99°	102°	3	1·2 gm.
B_{24}	2	Rigor alternate days; daily rise of temperature.	0·4 gm.	0·6 gm.	0·2 gm.	1·2 gm.	100·6	102°	5	2·2 gm.
B_{25}	0	....	0·4 gm.	0·4 gm.	0·2 gm.	1·0 gm.	101·4	104·2	3	1·2 gm.

Note: All the above cases received the total dose of Paludrine on the 1st day in single dose. On subsequent days it was given either in single doses or in two doses. Out of the 17 cases recorded above 6 received Paludrine for one day only in single doses of 0·3 gm. In other cases the drug was continued on other days as the feeling of wellbeing was not apparent on subsequent days after the first dose.

TABLE IV—SHOWING THE EFFECT OF PALUDRINE ON ASEXUAL P. VIVAX PARASITES IN THE PERIPHERAL BLOOD

Cases	*Before Paludrine*	*24 hours after commencement of Paludrine*	*48 hours after commencement of Paludrine*	*72 hours after commencement of Paludrine*	*96 hours after commencement of Paludrine*
A_1	400	200 / 5 tab.	6 / 8 tab.	0 / 11 tab.	..
A_4	28	2 / 6 tab.	0 / 9 tab.	..	..
A_6	25	2 / 4 tab.	..	..	..
A_{10}	140	90 / 3 tab.	..	..	..
A_{11}	12	..	4 / 7 tab.	..	0 / 13 tab
B_1	50	1 / 6 tab.	..	0 / 12 tab.	..
B_2	3	1 / 4 tab.	1 / 8 tab.	0 / 10 tab.	..
B_3	35	2 / 5 tab.	..	..	..
B_4	2	..	2 / 3 tab.	..	..
B_5	25	..	0 / 3 tab.	..	..
B_8	128	..	16 / 3 tab.	..	..
B_7	14	..	8 / 3 tab.	..	..
B_9	40	..	12 / 6 tab.	..	..
B_{11}	60	80 / 6 tab.	3 / 9 tab.	1 / 12 tab.	0 / 14 tab.
B_{13}	28	..	2 / 6 tab.	0 / 12 tab.	..
B_{16}	40	..	0 / 10 tab.	..	..
B_{18}	7	25 / 5 tab.	0 / 9 tab.	..	..
B_{20}	8	0 / 6 tab.	..	..	..
B_{24}	2	26 / 8 tab.	3 / 12 tab.	3 / 16 tab.	0 / 20 tab.
B_{25}	38	14 / 8 tab.	2 / 10 tab.	0 / 14 tab.	..

(Numbers in column 2 and numerators in other columns indicate Nos. of B.T. asexual parasites per 100 microscopic fields—1/12 oil immersion lens, 5 x eyepiece; denominators indicate the Nos. of 0·1 gm. Paludrine tablets taken before blood examination)

became afebrile on the 5th day. In another case with temperature 104°·5 F and heavy malignant tertian infection (240 parasites in 100 fields) 0·3 gm. was administered in a single dose. Next day the temperature came down and continued between 99·6 and 100·6° F. No further Paludrine was given that day. On the evening of the 3rd day the temperature went upto 103°·6 F. He was given 4 tablets at that time and then the dosage of 2 tablets twice daily was continued. He became afebrile on the 5th day.

Side Effects

At first some patients complained of slight nausea and abdominal discomfort during the course of Paludrine. In one case urine became scanty even when the temperature came down. Later the tablets were being given to patients after meals with plenty of fluid drinks and since then no further complaint has been heard.

Discussions

Adams, Maegraith, *et al* (1945) report that the results of estimation of plasma concentration of Paludrine in subjects receiving 50 or 500 mgm. 12-hourly for 14 days shows that the plasma concentration gradually rises and reaches the maximum (irregular plateau) about the 4th or 5th day. In the present series this has been the approximate time taken for the complete control of the fever and disappearance of the parasites from the peripheral blood. Maegraith, Adams, *et al* (1946) found that after single dosage with 200 mgm. or more, effective level of blood concentration of the drug is maintained for more than 48 hours. In the present series 48 hours after commencement of Paludrine malaria parasites (B.T.) were present in peripheral blood in 73·3 per cent. and was fairly high in 33·3 per cent of the cases. Temperature also went up fairly high above normal in 41·2 per cent of the cases 48 hours after commencement of Paludrine. Total dosage during this period varied from 0·3 gm. to 1·2 gm. of the drug. In one case of malignant tertian infection temperature went up high 48 hours after 0·3 gm. of the drug. In another case of malignant tertian infection the temperature went high and the patient became delirious with 0·6 gm. of the drug in 24 hours. The facts noted above do not appear to the present author to be favourable for the single dose treatment of a malarial attack with Paludrine as a routine method.

Effective dose for clinical cure—Shute (1946) notes that strains of malaria parasites within a species often vary in their clinical virulence and their resistance to specific drugs according to their geographical distribution. Thus the amount of quinine required to control attacks of Rome and Sardinian strains of malignant tertian malaria was found to be 8 times as much as was necessary to control attacks caused by two Indian strains and strains from West Africa, Tanganyika and Rumania. He also notes that the amount of antimalarial drugs necessary to cure a primary attack is much more than is necessary to cure relapses or reinfection by the same strain of parasite. In the present series all the cases were primary cases except one (B_{22}) which was a relapse case (of B_1). 0·3 to 0·4 gm. of the drug daily continued for 4 to 5 days have been found to completely control the fever and cause disappearance of parasites from peripheral blood in most of the cases. Smaller doses have not been tried as even with these doses fairly high temperature has occurred in a number of cases on the third day with presence of malaria parasites in the peripheral blood. Higher doses have not been more helpful as even 0·8 gm. in 24 hours (0·4 gm. in the evening and 0·4 gm. next morning) has not been able to check the next paroxysm with high rise of temperature next evening. Taking into consideration the practical difficulty in our country of examination of blood in large majority of the cases many of whom may be infected with *P. falciparum* parasites and also the fact that adequate blood concentration has to be maintained the present author has adopted the dosage of 0·2 gm. twice daily for 4 to 5 days according to severity of the case and then either the same dose or smaller dose continued daily upto total of 3 gm. The total daily doses may be given in single doses if convenient.

Relapse—20 patients treated for *P. vivax* infection recorded above have been watched for relapse of fever after cessation of regular treatment with Paludrine. There was relapse of fever with presence of *P. vivax* in peripheral blood in 5 patients (30 per cent) within 4 to 8 weeks.

Considering all facts results of the treatment of malarial fever with Paludrine appear to be similar to that with adequate doses of mepacrine.

Summary

(1) 36 patients with malarial infection were treated with Paludrine. All were cured of the fever and of the asexual parasites from peripheral blood.

(2) Effect of Paludrine on the malaria parasites and on the clinical course of the disease appears to be similar to that of adequate mepacrine dosage.

(3) No toxic effect has been noticed.

(4) Experience of the author regarding one-day single-dose treatment of malaria with Paludrine is not favourable for adopting it as a routine method.

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THE RÔLE OF GONORRHOEA IN CHRONIC PROSTATITIS

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Chronic prostatitis is a common condition especially in the adult. That few cases are due to gonococcal infection has been confirmed by Kretschner, Barkey, Heekele and, Ockuly, who studied 1,000 cases of chronic prostatitis in 1937. They could find gonococcus in 24 cases only. Young also found gonococcus only in a small percentage of cases. Gonococcus according to some does not survive longer than 3 years, unless reinfection takes place.

In the present series, 100 cases of chronic prostatitis were studied and their prostatic secretions repeatedly cultured for various micro-organisms, particularly the gonococcus. The diagnois of the chronic prostatitis was confirmed by the finding of more than 10 pus cells in the prostatic strippings. Gonococcus was found only in 3 cases. The entire work was carried out in the Genito-urinary Department of the Mayo Hospital, Lahore during the year 1944-45.

Some cases gave no history of gonorrhoea and the origin of infection had to be sought elsewhere. The chronic prostatitis in a number of cases was the legacy of a previous attack of acute prostatitis. It is well recognized clinically that the prostate may be infected from specific foci in other parts of the body, such as the teeth, tonsils, intestinal tracts, respiratory tract, from furuncle and other sources. The spread may be by blood stream, but some believe that the micro-organisms are excreted by the kidneys and during their passage through the urinary bladder they get lodged in the prostate.

Horse-back or bicycle riding, alcohol, sexual over-indulgence, withdrawal before emission, prolonged sexual excitement, masturbation and prolonging the sexual act have all been considered as factors in the production of chronic prostatitis. Undoubtedly they may be predisposing factors by causing a venous congestion in the prostate. The pathology of the invading organisms is uncertain, but frequent or prolonged contact with this congested gland with the voided urine may result in prostatic infection. The types of micro-organisms found on smear or cultural examination of the prostatic strippings are:—

(1) Staphylococcus. (2) Streptococcus. (3) Gonococcus. (4) Bacillus coli. (5) Diptheroids (6) Bacillus pyocyaneus.

The results summarised in this paper are chiefly based upon culture reports. In certain of the cases the discharge was scanty. In these cases the patient after the prostatic massage was asked to pass a few drops of urine into a tube of broth. The urine specimen was centrifugalized for a very short time (less than one minute), to avoid cooling. The supernatant fluid was decanted and the sediment smeared and cultured.

Standardisation of the Technique

In order to ascertain whether the growth of the gonococcus could be obtained from a mixed culture, and the maximum dilution in which it can be obtained, the following methods for the standardisation of the technique have been adopted:

(1) A few cases of acute gonorrhœa were selected and the smear was cultured on human chocolate blood agar. Typical gonococcal colonies were obtained on cultures and on staining them typical Gram negative diplococci were seen (1) Four sterile test tubes were taken, each containing 1 c.c., 2 c.c., 5 c.c., and 10 c.c. of normal saline respectively. They were numbered as (*a*), (*b*), (*c*) and (*d*). In each of these test tubes were put half a loopful of the gonococcal culture and three loopfuls each from B. coli, streptococcal and staphylococcal cultures. All the tubes were shaken to ensure homogeneous distribution. Then 4 petri dishes were taken, each containing chocolate medium (human blood) and numbered (*a*) (*b*), (*c*) and (*d*). A loopful from the tube (*a*) was inoculated on the medium (*a*) a loopful from the tube (*b*) was inoculated to the medium (*b*) and so on. Then all the media were incubated for 24 hours at 37·4° C, in the presence of a certain amount of CO_2 and a certain amount of moisture. The growth of the gonococcus could be obtained only upto the tube (*b*) and not beyond that.

(II) Broth was then substituted for the saline and cultures were repeated as above. This time the growth of the gonococcus could only be obtained upto the tube (*c*), and not beyond that, proving that the broth was a better medium to prevent the dying of the gonococcus.

(III) The gonococcus was also cultured successfully from the sub-acute cases of prostatitis.

The gonococcus is a very delicate organism, easily killed by drying. Carpenter used 2 c.c. of the broth in test tubes for obtaining smears in all the cases. In the present series, all the cases were taken to the Pathology Department and the strippings were inoculated at once in to the media which were incubated without any delay.

Care was taken to obtain a sufficient quantity of the exudate. In some cases where there was danger of the least delay, the smear was taken on sterile swabs and they were suspended in tubes containing 1 or 2 c.c. of broth, to prevent the death of the gonococci from drying. From 0·05 to 0·1 c.c. of the suspended exudate was pipetted on to the surface of the plates (plates of chocolate medium prepared from human blood were used for the culture of the gonococcus and were put in an incubator in an air tight jar containing 10 per cent of carbon dioxide with 12 per cent air displacement and plates of human blood agar were

Name of author	*Incidence of Positive cultures*	*Medium used*
Konard (1928)	83% in acute cases 78% in chronic cases	Ascitic blood-agar
Hanpatmann and Philadephy (1931)	99% in females	Ascitic agar (Meat inf. broth)
Phrohilich and Jorda (1932)	24·5% in males	Ascitic agar
Schubert (1932)	37·2% in males 33·2% in females	Bielding-Casper's blood water agar
Hamel (1932)	7·2% in males 8·2% in females	Ascitic agar
McLeod *et al* (1934)	14·2% in females 1·4% in males	Chocolate agar
Leahy and Carpenter (1936)	20% in both males and females	Haemoglobin serum agar, blood agar
	44·5% in both males & females	Chocolate agar (Douglas agar base) 10% carbon dioxide
Carpenter, Leahy and Wilson (1938)	24·3% in males only	" " "
Falke (1935)	27·8% in males	1·8% veal inf. agar plus ascitic blood fluid mix
Kaplan & Wolfram (1935)	66% in males 45·6% in females	Ascitic agar beaf, Peptone base
Sphor & Landy	70·3% in males 29·2% in females	Chocolate agar (gelatin base)
Winkler (1937)	24·1% in both males & females	Bielding-Casper's blood water agar, ascitic agar, 10% CO_2 reduced oxygen
Jacobsan, Mason and Arnold (1937)	13·8% in females	Chocolate agar (Douglas base) 8·1% CO_2

used for the culture of other bacteria under normal atmospheric conditions). These plates we re-incubated at 37°·4 centigrade for 24 hours but reports were not considered negative until the termination of 48 hours incubation. Some cultures which were negative but had a positive smear report, were repeated again.

Culture of Gonococci

Different media have been used by different workers with varying results which are annexed in a tabular form.

Evan Hamel recommends that cultures should be done. Jones (1938) in recent reports has also emphasised the great usefulness of the cultural methods.

Cultivation of the gonococcus is notoriously difficult. Many improvements have been recommended and the use of certain precautions advised. Sphor and Landy found that the lack of concentration in the medium used and drying of the swabs in which the specimens were taken play a very important part.

Thompson and Carpenter agreed with McLeod and his associates in believing the gonococcus to be carbon dioxide-ophilic ; they all used 8 to 10 per cent carbon dioxide.

McLeod and his associates have introduced oxidase reaction for the detection of gonococcal colonies in mixed cultures. The result of other authors agreed in general with theirs but Thompson and Price have encountered various organisms like the diphtheroids, staphylococci and some other Gram-negative cocci, which give a positive reaction to the test and at times confused diagnosis.

In 1915, Warden found on chemical analysis of gonococci that they contained 0·027 G of fatty acid per 0·5 G of air-dried organism. By comparison with other bacteria, he found that gonococcus possesses considerable amount of volatile and non-volatile fatty acids. Walton concluded that the gonococcus was a delicate organism composed of plasma held together by bulky fats.

The organism is very delicate and difficult to culture and it is only recently that simple and reliable cultural methods have developed. A useful methods was adopted by McLeod and his co-workers in 1934. They all observe that their methods were superior. They used chocolate medium, incubating at 36°C. in

air reinforced with 8 per cent CO_2. Subsequently, an oxidase reaction (1 per cent dimethyl-para-phenylene-diamine-hydrochloride solution) was used to identify the colonies of gonococcus.

Flooding the plates with the test solution may increase the concentration and make it necessary to fish suspicious colonies within 30 minutes, otherwise the gonococci are killed by the reagent. This is a serious drawback when any cultures have to be examined.

The results of experiments by other authors agreed in general with those of McLeod and his associates. All of them found the test to be a great aid in the diagonsis. Thompson reported a small Gram-negative duplococcus giving a positive oxidase reaction and it is well known that other members of the genus Neisseriae also form oxidase. Many different medias, most of them relatively complicated to prepare, have been recommended. Most authors however agreed that the pH should be between 7·2 and 7·6 and that heated blood, ascitic fluid or some similar substance should be added to enrich the medium. After a preliminary study, a slight modification of McLeod's procedure was devised by Leahy and Carpenter which was simpler and proved to be equally effective. They used chocolate agar made from Douglas agar base and incubated duplicate cultures at 34°C. and 37°C in 10% carbon dioxide, followed by 24 hours incubation under normal atmospheric pressure. They also recommended the use of 1 to 2 c.c. of broth for suspending the sterile swabs on which the prostatic secretion is taken, in order to prevent the secretion from drying. The broth suspension was kept at refrigerator temperature of from 4°C. to 10°C rather than in the incubator. It was observed that the storage for 6 to 8 hours did not affect the results. It was found by Alfred Cohn that horse blood agar originally described by Bielding and modified by Casper and Ruys gave satisfactory results as well as a combination of serum and diluted haemolysed horse blood agar, recommended by Paizer. The first medium described by Alfred Cohn is non-transparent but the second medium is transparent. It was also found that Difco Hæmoglobin proteose No. 3 agar was quite good. However, it was not transparent. Later on Pitts in 1940 prepared 1000 cultures and compared the value of different medias (1) Ravens' semi-solid Agar (2) Douglas Agar and (3) Testicular Hydrocele Agar, and found the latter to be very useful. The technique of McLeod which consisted of heated blood medium incubated in the presence of CO_2 gives the best results, especially with the addition of oxidase reaction.

For the present series of cases all cultures were prepared very carefully. Due precautions were taken to prevent contamination. Gonococci could be found only in three cases.

Cohn used ascitic cooked beef-blood filtered agar, which forms a transparent medium and its efficiency depends upon the quantity of the ascitic fluid used. The necessity of titrating it on a large series of cases makes the medium impracticable for use for primary isolation of gonococci. None of the medias discussed have met all the requirements *viz.*, simplicity of preparation low cost, transparency, and stability. Cohn used beaf or sheep blood as the enrichment. The plates were clear transparent and colourless. The colonies were greyish, smooth, translucent and convex. He took the discharges on sterile swabs which were immersed in 2 c.c. of veal infusion broth. The plates were inoculated by rolling the swabs over the surface of the medium. The cultures were examined after 48 hours incubation at 37°C. with 10% CO_2 (although it was found that CO_2 was not essential after the first twenty-four hours.) Different combination of the new medias were tried, but it was found by him that on 5% beef or sheep blood in combination with horse serum and proteose agar, a satisfactory growth was obtained.

Microscopic Examination of the Direct Smears and Cultures

The anterior urethra is washed out with sterile water. The external meatus and the glands are cleaned with absolute alcohol. Prostatic massage is performed and the smear obtained on a sterile loop or sterile swabs and rubbed evenly over a clean glass slide as a thin film. It is allowed to dry and is fixed by passing over a flame. The slide is now examined under the microscope without staining; after this it is stained and examined.

Similarly, a loopful from the culture is taken and mixed with a drop or two of normal saline over the slide and a thin and even film is spread, dried fixed, stained and examined. Before getting a smear, the colonies of each culture were thoroughly examined with a lens (as oxidase reagent was not available).

Stain used—A modified Gram's stain was used in all the cases, as follows:

(1) 0·6 per cent aqueous solution of methyl violet or gentian violet for 20 to 30 seconds.

(2) The solution was poured off and the slide washed with Gram's Iodine solution.

(3) Gram's Iodine solution was kept for 30 seconds.

(4) This was then washed off with absolute alcohol until decolorisation was complete.

(5) 2 per cent aqueous solution of safranin was applied for 5 to 10 seconds.

The slide was now dried, a drop of cedar wood oil was put and it was examined for at least 15 minutes and thoroughly investigated.

Analysis of 100 Cases of Chronic Prostatitis

For convenience of description the cases have been divided into three main groups as follows:

Group 1—This includes cases which showed no micro-organisms in direct smears or cultures of the prostatic strippings, inspite of repeated and careful search. Cultures of the centrifugalised urine were also negative in these cases.

Group 2—This includes cases which showed no micro-organisms in direct smears, but the cultures, either from the prostatic strippings or the centrifugalised urine, were positive.

Group 3—This includes cases in which direct smears were positive and the cultures either from the

prostatic strippings or the centrifugalised urine were also positive.

Analysis of the Cases Reviewed

Group 1:	
Number of cases	14
Group 2:	
Number of cases	51
(A) Direct smears negative but cultures of the prostatic strippings positive	
(*i*) Staphylococcus albus and B. Coli ..	22
(*ii*) B. Coli	8
(*iii*) Streptococci	2
(*iv*) Staphylococcus albus	3
(*v*) Staphylococcus aureus	1
(*vi*) Diphtheroids	2
(*vii*) Streptococci & Staphylococcus albus ..	2
(B) Direct smears and cultures of the prostatis strippings negative but culture of the centrifugalised urine positive	
(*i*) Staphylococcus albus	9
(*ii*) B. Coli	2
Group 3:	
Number of cases	35
(A) Direct smears and cultures both positive	
(*i*) Staphylococcus albus and B. Coli ..	12
(*ii*) Gonococci	3
(*iii*) Staphylococcus aureus	2
(*iv*) Staphylococcus albus	8
(*v*) B. Coli	6
(B) Direct smears of the prostatic strippings positive and cultures of the same negative. Cultures of the centrifulgalised urine positive	
(*i*) B. Coli. & staphylococcus albus ..	4
Total ..	100

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CONGENITAL DISEASES OF THE HEART*

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As a preliminary, permit me to change the title from "Congenital diseases of the heart" to one of "Congenital malformations of the heart". Congenital diseases of the heart are excessively rare. Congenital syphilis of the heart is the only condition that can be treated as a congenital disease. The diagnosis must, of course, be supported by the facts that the disease existed from very early life and the mother's blood serologically positive for syphilis. The incidence of this group is excessively low. Other conditions such as idiopathic hypertrophy of the heart (congenital), fœtal endocarditis have been described in literature. But this is not universally accepted. Hence congenital malformations is a suitable title.

Incidence

It is universally accepted that the incidence of the congenital malformations is excessively low. Precise calculations are exceedingly difficult to obtain. A large group are not available for reckoning, owing to the fact that a high percentage die at birth or shortly after when they are difficult for diagnosis. Cases that have survived the period of infancy can of course be recognised as those belonging to the cardia but their true nature cannot be diagnosed with any certainty. The chances of arriving at a correct diagnosis improve with increasing age and those surviving after 10 can be positively identified. It must, however, be remembered that the mortality rate is very high upto ten years of age. Thus many cases escape detection. It might have been possible to add some more numbers if post mortem examinations were more popular in our country. In this respect Bombay is more statistically minded and hence is able to produce convincing figures in many of their medical papers. I regret I have had no time to contact them to glean some information of value relevant to this paper. As regards foreign figures, one group of English figures from a children's hospital where the admissions are restricted to the age of 12, limits the incidence of congenital malformation to 0·3 per cent of all cardiological diseases. The same difficulties above referred to are admitted. American figures mount upto 1 per cent of all forms of heart cases. All ages were reckoned and all forms of investigations including P.M. examinations were enlisted in the enumeration.

At any rate, there is no reason to doubt that our figures would correspond to the American figures.

I have observed nearly 120 cases in the course of 12 years and of them only 12 were below the age of ten where the diagnosis was established. 108 of them were above the age of ten and the oldest forty-five. (This was a member of our association deceased

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last month and he was fit and well to work till six months before the date of his expiry though he was getting distressed for the past two years). I have heard of cases clear the fifty bar though I have not come across any. Sexes are equally represented. Other congenital defects of the rest of the body are associated even upto 15 per cent. To mention a few of these mongolism, microcephaly, harelip and cleft palate, syndactily, polydactily, undescended testes, hypospadiasis and allied malformations, imperforate anus, congenital talipes, etc. Neither parental syphilis nor alcoholism figure largely.

Classification

Many varieties of classification are suggested but for the purposes of this paper the frequency with which the malformations present themselves is considered the right basis for classification. (*a*) Patent inter-ventricular septum; (*b*) pulmonary stenosis; (*c*) patent ductus arteriosus.

Other conditions though rare are merely mentioned here:

1. *Patent foramen ovale*—Its presence is rarely recognised in life. It is usually a post mortem finding as there is no symptom to diagnose it during life. It is seen at all ages in the morgue. It is often associated with acquired cardiac infections.

2. *Coarctation*—It is a condition in which the aorta is stenosed at the site just distal to the point where the left sub-clavian artery is given off from the aortic arch with the result that the descending and abdominal aorta are thin and withered. Hence the upper extremity, head and neck and the upper part of the chest are engorged with blood and the lower extremity, abdomen and the lower part of the chest suffer from extreme poverty of blood. The blood pressure figures may amount to 200 in the upper extremity and it may be even so low as 50 in the lower extremity. It may be recalled that normally the lower extremity records amount 20 mm more than the upper. Naturally the pulsation is absent in abdominal aorta and formoral artery. Yet so wonderful is nature's compensation that an elaborate system of collateral circulation is established as a compensation to this dire defect. A young adult presents himself for symptoms of blood pressure without obvious cause. The condition is easy for recognition as coarctation of aorta with the data already given and the tortuous hypertrophied and enlarged arteries of the collateral circulation by the sides of the sternum, over the scapulae, upper part of the chest and over the upper abdomen. They may live up to forty and die of ruptured aorta or heart-failure as a result of high blood pressure. Treatment is on the lines of high blood pressure.

3. *Two or three chambered hearts* are best relegated to the field of anomalies. They generally expire shortly after birth, if not born dead.

4. *Diseases of the valves* such as fusion of the cusps, paucity in the number of cusps or presence of extra cusps do not have any practical bearing except in the case of pulmonary valves. Their symptomatology is uncertain. They should be carefully distinguished from acquired diseases as a result of rheumatism while young.

5. *Dextro-Cardia*—The classical one is a mirror image transposition of the heart with even other viscera such as liver and spleen transposed. This condition is compatible with full life. Hence no treatment is needed.

A few words of description are necessary with regard to the three more common conditions noted above.

Patent inter-ventricular septum—Usually the defect is confined to the membranous part of the septum and in this condition of heart disability the symptoms may be very few indeed. The patient may not be cyanosed, a thrill may not be perceptible. Clubbing of toes and fingers may be minimal. But if the septal defect is large without any compensating congenital defects the patient would have all the distressing manifestations and the end may come in the second decade. Otherwise the more benign state above mentioned permits the patient to reach the thirty mark. These cases constitute 20 per cent of all congenital defects.

Congenital Pulmonary Stenosis—It constitutes 15 per cent of congenital defects. The defect may be from a quill size to a complete closure of the pulmonary opening. In the latter case compensatory defects are usually present. Nevertheless mortality is high. Patients rarely survive the twenty mark. Cyanosis, clubbing of the fingers and toes and well-marked thrill in the pulmonary area, frequent tendency to coughs and cold, severe dyspnœa becoming more pronounced with slight exertion are usually present. Treatment is on general lines to be described later.

Patent Ductus Arteriosus—It constitutes five per cent of all defects. Generally the connecting link between the pulmonary artery (usually left) and the aorta closes within five days after birth because the child begins to live on its own lungs after birth. But when this condition continues, Patent Ductus is said to exist. When unassociated with any other defect the patient may go on to forties unless caried away by infection. Cyanoses and dyspnea are rarely present. Clubbing is not much in evidence. There is no pulmonary congestion. Thrill is rarely present. A loud murmur which is aptly described as the water-wheel murmur is heard in the third left inter-space close to the sternum. The effect is said to recall the noise produced by a train passing through a tunnel or over a bridge or the working of the dynamo. Its appreciation is easy when once it is heard. For all its noise the condition may be said to be almost benign.

Diagnosis

The more important points of diagnosis are as follows:

A congenital defect is more easily recognised by simpler examinations, observations, and sympathetic listening to the history and elicitation of some answers from an intelligent relative.

The child may have been born blue. Its landmarks of development may have been retarded such as the child cannot hold its head erect in six months, or is unable to stand up in a year. Even the development of speech may have been backward. It may have been subjected to convulsions and also to colds and catarrhs frequently. Closure of the anterior fontanelle may have been considerably delayed. Nutritional disorders are common. Interference of circulation interferes with nutrition and interference of nutrition interferes with growth. No wonder infantilism is usual. This attractive looking child with a pathetic looking face is unable to join the other children in all their plays and pranks. On the other hand it picks up a precocious language of its own, rather sharp and incisive, unsuitable to its age, learned mostly through squatting with adults. There is however another type that tries to be over-active merely as a set up against its inferiority complex. These latter group of children need special watching lest they should precipitate their own end through over-exertion. They are said to have a smooth glossy skin, fine soft hair but I am yet to see a child, however accursed by racial disabilities not possessing a smooth skin or soft hair. It would be more profitable to pay attention to the leaden grey cyanosis of the face, the dark blue lips like the Jamun fruit (Eugenea Jambulona, Nagappalam in Tamil) and of the other dark shades of colour in the conjunctiva and the tips of the ear. Fairer children have pink cheeks. The nails are ashen blue. Only thirty-three per cent have cyanosis. This cyanosis is the result of the direct admixture of venous blood with the arterial blood. Septal defects prevent blood from entering the lungs to a smaller or larger extent. As a compensatory mechanism, the number of red blood cells may increase enormously. Reference has already been made to the clubbing of fingers. Breathlessness is a very important symptom. Sixty per cent of them are obviously breathless. In another thirty-five per cent breathlessness becomes obvious on very slight effort. In the other five per cent, breathlessness is incipient. A little observation will reveal this. As regards the murmurs, they are so loud that they may even be heard without the aid of the stethoscope. As regards any thrill over the region of the heart when present it is very harsh and rough and wide spread.

Most of the cases that I have come across are intellectually and aesthetically of a higher mental coefficient. One such was a mathematical prodigy and another could handle the violin with a divine touch. And a few other were academically much above the average. A large percentage of them were enthusiastic and ambitious about scholastic advancement. Alas I have had nothing but discouragement from educational authorities even when I tried to exert my personal influence in the matter of their having to climb stair, afternoon sleep etc.

Prognosis

Adequate references have been made right through this paper about the prognosis of each malformation. Death when it comes may take the form of status convulsivus and anginal attack, progressive wasting (marasmus), infections of the heart, pulmonary infections such as broncho-pneumonia, pulmonary tuberculosis. The subacute bacterial endocarditis is often super-imposed on a congenital malformation. Cases getting older die of right or left heart failure.

Treatment

Prescription of drugs is not the only form of treatment for any disease—there is no specific drug for these defects. Academical skill is not so necessary as the proper appreciation of the psychology of the patient. Proper advice should be given to the patients' near and dear ones with regard to the nature of the disease and its effect on longevity, the importance of rest, care and attention to diet, education, work, exercise, marriage, childbirth and lastly the careful watch necessary during other ailments. They need a sheltered life. Even as mild a disease as an ordinary cold needs very careful attention. Many a childhood victim to this disease has succumbed to whooping cough. Rest indoors is more important than rest in bed unless there be associated cardiac failure. Personal care and attention in the matter of education, upbringing should be the duty of the parents or such allied relations. Individual attention rather than institutional training is essential. Indoor games even if they involve a little mental skill are preferred to outdoor games. Weather and climatic conditions should decide the dress. Diet expressed in platitudinous language should be light and nourishing. Many a case of dietetic indiscretion has meant the life of the patient. Abdomen distended by a bulky food associated with gas has pressed the diaphragm up and the life is ended thereby suddenly. When the patient grows up with the disease he gets wise enough to attend to his dietetic requirements and to appreciate the suitability of any particular article of diet. The patient should not marry. Hence I plead that it will not do for any practitioner to treat congenital malformations as an obscure malady or to ignore the treatment part of the same. As already stated treatment is not mere prescription writing.

SPECIAL ARTICLES

I

WORLD MEDICAL ASSOCIATION

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18th of September, 1947, was a red letter day in the history of the medical profession of the world. On this date, at 3-40 P.M., in the historic city of Paris, was born, as a result of the deliberations of the representatives of 48 countries from different parts of the world, including India, an organisation with the following objects:—(1) to promote closer ties among the national medical organisations and among the doctors of the world by personal contact and all other means available; (2) to maintain the honour and protect the interests of the medical profession; (3) to study and report on the professional problems which confront the medical profession in the different countries; (4) to organise an exchange of information on matters of interest to the medical profession; (5) to establish relations with, and to present the views of the medical profession to the World Health Organisation, the U.N.E.S.C.O. and other appropriate bodies; (6) to assist all peoples of the world to attain the highest possible level of health; and (7) to promote world peace. The first initiative in this direction was taken last year when, under the joint auspices of the Association Professionelle Internationale des Medicins and the British Medical Association, thirty-three medical associations in thirty-one countries sent their representatives to a three day Conference held at the British Medical Association House in London, opening on September 25, 1946. This Conference which was attended by over 40 full delegates and 32 observers, decided that there should be international liaison in the field of medicine and that an international organisation should be brought into being to lend full support to the practitioners all over the world against the subtle and insidious forces which were menacing the age-old traditions and freedoms of the profession. Dr. J. Decourt of France (Secretary, A.P.I.M.) who was very frank in expressing his doubts about the intentions of the W.H.O. and U.N.E.S.C.O., observed that a World Medical Association was necessary "to defend medical practitioners whose liberty was being menaced in many countries" and Dr. T. C. Routley of the Canadian Medical Association desired an organisation "which would signify the unity of doctors all over the world". Before breaking up, this Conference set up a Provisional Committee of nine members to work out a draft Constitution and By-laws of the proposed Association and to place same before a similar Conference of representatives of national medical associations to be held at Paris in 1947 for consideration and adoption as the instrument governing its activities.

This second Conference which held its sittings at Paris from 17th to 20th September, 1947, was inaugurated by the French Minister of Health who welcomed the delegates to the French capital and was attended by representatives from 48 national medical organisations. At the first part of the meeting, the delegates adopted the Draft Constitution and By-Laws which were submitted by the Organising Committee of nine, after suitable modification of some of the articles of the Constitution and the By-Laws, as a result of amendments proposed by some of the representatives present. The important articles of the constitution, as finally adopted, are those relating to the objects of the World Medical Association, eligibility for membership, rate of subscription, composition of the General Assembly and the Council, voting power of member Associations, official language of the organisation and election of officers. From a perusal of the objects, as enumerated above, it will be clear that the Association will concern itself, principally, with those aspects of professional problems which are generally recognised as falling under "medico-political" work, leaving the scientific and academic aspects to the national medical associations. Membership of the organisation will be governed by Article 5 which was accepted in the following form:—

(*i*) These medical associations which sent delegates or observers to the International Medical Conference in London in September, 1946; and

(*ii*) Any other national or territorial medical association which is fully representative of the medical profession in its country or territory or of the members of the medical profession of a recognised ethnic group in its country or territory.

A good deal of discussion centred round the basic idea of clause (*ii*) of the above Article, many of the delegates present expressing the view that the concession allowed in eligibility for membership on ethnic grounds might encourage fissiparous tendencies amongst certain classes of members of national medical associations and lead to fragmentation and subdivision in their ranks with a view to obtaining recognition as independent units of the world organisation. After prolonged discussion, however, the clause was adopted without any change or modification. The General Assembly which would be responsible for the general control and direction of the policy and affairs of the Association would consist of Delegates from the Member-associations, each such association being entitled to appoint two delegates and to enjoy two votes, one for each delegate and two for one delegate, if the second was unable to be present. "A Delegate," it was decided "shall be a person who is medically qualified and a member of the Association he represents, and he shall be ordinarily resident in the territory of that Association". The rate of subscription was fixed as follows:—(*a*) That the subscription of each Member-association be calculated at a flat rate per member with a minimum total and a maximum total. (*b*) That the flat rate per member be 20 Swiss centimes, with a minimum of 1000 Swiss francs and a maximum of 10,000 Swiss francs". The Council, which would carry into execution the resolutions passed by the General Assembly and administer the affairs of the Association, in accordance with the Articles and By-Laws, would be composed of the President, the President-elect, the Treasurer and ten members of the General Assembly

elected at its Annual Meetings in the manner and for the period prescribed in the By-Laws. It was decided that the English, the French and the Spanish would be the official languages of the Association and that a Journal or a Bulletin may be published, periodically, as decided upon by the Council. It is a matter for sincere congratulation that India has obtained a seat in the Council of the World Medical Association, Dr. S. C. Sen, the Hony. General Secretary of the Indian Medical Association, who was one of the delegates, secured the third highest vote in the election.

After adoption of the Constitution and the By-Laws, began the second part of the Conference which was the First Annual Meeting of the General Assembly of the World Medical Association. Dr. Charles Hill, Secretary of the British Medical Association, was appointed Acting Honorary Secretary and Prof. Marquis, who is Director of the School of Medicine of Rannes (France) was elected the First President. Dr. Leuch of Switzerland, the Treasurer, then presented the Financial report and, in doing so, pointed out that the revenue derived from subscriptions from Member-associations would fall short of the requirements, if the tasks imposed upon the World Medical Association were to be carried out efficiently. The Delegates from the U.S.A. reported, at this stage, that some industrial "friends of the American Medical Association", being convinced of the potential value of the World Medical Association to the science and profession of Medicine and to the cause of promotion and maintenance of world peace, and being desirous of helping it financially during the early years of its career, had offered a generous gift of $50,000 a year for five years on certain conditions, the principal among which were that the money was to be used for the remuneration and expenses of the Secretary, other officials and clerical staff; the rent, rates and other disbursements in connection with the official Headquarters; the cost of publication of the Association's official bulletin or journal; the travelling expenses of the Council. Other conditions attached to the gift were that the Headquarters of the World Medical Association should be in North America, that the Council be instructed to work out a scheme of Associate Membership, that the disbursement of the money would be in the hands of an American Committee composed of five doctors and four laymen who, as donors, were to be admitted to the Associate Membership with right to attend meetings but not to vote. The American Delegates made it clear that the Committee had no intention of determining or interfering with the policy of the World Medical Association; their only desire was to approve of the general purpose of the schemes which the Association would decide to finance out of the donors' money. A prolonged discussion ensued on the desirability or otherwise of accepting this generous offer on the terms attached to it, particularly, those relating to the demand of the establishment of the Headquarters of the Association in North America, the working out of a scheme of associate membership to which laymen were to be admitted and the setting up of an American Committee to control disbursement of the gift fund. Many Delegates, including one from India who led the opposition, objected to these conditions and expressed the view that the World Medical Association would sell its soul, if it accepted the gift under these terms. They appreciated the generosity of the donors and thanked them warmly for offering to place such a handsome sum of money at the disposal of the Association in the early years of its existence but were definitely of the opinion that, unless the latter conditions were withdrawn, it would be better for the World Medical Association to work out its own salvation and arrange to have, during the preliminary years, all its routine and other works done by Honorary Officers. A large number of Delegates took part in the discussion and, at the end, the Assembly voted in favour of accepting the handsome gift after the conditions relating to the reference to working out a scheme of Associate Membership and the constitution of an American Committee to control disbursement of the money, were deleted. It is pertinent to quote here the observations of the British Medical Journal which aptly describe the feelings of all Delegates present at the meeting and who took part in the discussion of this controversial subject:—"It is perhaps a commentary on the unsettled economy of the world that the World Medical Association which represents some 500,000 doctors, could not raise sufficient funds to carry on its work unaided".

After the business part of the meeting was over, the General Assembly took up for discussion two motions by Denmark and Great Britain and a document prepared by the Council of the British Medical Association, entitled "War Crimes and Medicine" Prof. Charles Richet, a French medical victim who had spent some time in a German concentration Camp, related his own experiences and was followed by one of the Greek delegates who described the brutalities committed in his country during the last war by members of the profession, acting under orders of the Nazi High Command. After hearing with sympathy the statements made by those and other members, the Assembly condemned the crimes committed by German and other doctors and appointed a small Committee to go into the subject and formulate recommendations. The following report of the Committee was subsequently adopted by the Assembly:—

(*i*) That a report on crimes committed since 1933 by doctors and medical organisations in Germany and other countries and on the violation of the medical ethics, be prepared and made available to doctors throughout the world.

(*ii*) That the World Medical Association solemnly condemns the crimes against human beings committed by certain members of the medical profession such as are described in the British memorandum.

(*iii*) That every doctor, at the time of receiving his medical degree or diploma, be required to subscribe to the following oath:—

"My first duty, above all other duties, written or unwritten, shall be to care to the best of my ability for any person who is entrusted or entrusts himself to me, to respect his moral liberty, to resist any ill-treatment that may be inflicted on him, and, in this con-

nection, to refuse my consent to any authority that requires me to ill-treat him.

Whether my patient be my friend or my enemy, even in time of war or in internal disturbances, and whatever may be his opinions, his race, his party, his social class, his country or his religion, my treatment and my respect for his human dignity will be unaffected by such factors."

(*iv*) That the World Medical Association endorse judicial action by which members of the medical profession who shared in war crimes are punished.

(*v*) That the World Medical Association request the German medical syndicates to make the following public declaration:—

(*a*) We, members of the German medical syndicate, are aware of the very large number of acts of cruelty committed, both by individuals and collectively, since 1933 in mental hospitals and in concentration camps, and of the violation of the medical ethic. These acts have resulted in the death of some millions of people. A large number of our members have been implicated in these acts, either as instigators or as technical agents or as actual perpetrators;

(*b*) We regret that the organised medical profession in Germany has not made any protest and has been content to ignore these acts, of which it could not have been unaware;

(*c*) We undertake solemnly to condemn these crimes, to expel from our organisation the criminals who have committed them, and to remind all our members of the respect due, not only to life, but to human personality, dignity and liberty.

The Assembly instructed the Council to prepare a report incorporating these resolutions and also to take into consideration the following motion by the Netherlands:

"That the Council be instructed to prepare a report on the collaboration of medical practitioners in the preparation of means of warfare."

The following matters were also referred to the Council for appropriate action or investigation and report:—

(*i*) The general arrangements for the organisation and publication of a bulletin or journal;

(*ii*) The preparation of a report on the enquiry into the present position of the medical profession in relation to the state;

(*iii*) The motions of Luxembourg, supported by Australia, recommending the preparation of a comparative statement of standards of training for the medical profession and conditions of registration, and of a comparative statement on the qualifications of specialists;

(*iv*) The following motions by India:—

(*a*) That the Council be requested to study and report on the question of the advertisement of cures and medicines in the lay press;

(*b*) That the Council be requested to study and report on the question of unqualified and unauthorised medical practice.

(*v*) The preparation of Standing Orders to govern the procedure of meetings of the General Assembly;

(*vi*) The appointment of auditors.

The General Assembly decided to hold its 1948 meeting at Prague, the exact date to be fixed by the Council, and elected Dr. J. Stucklich (Czechoslavakia) as the President-elect for the year 1947-48.

The Conference was held in the Domus Medica, the Headquarters of the Confédération des Syndicats Médicaux Francais, which acted as a most generous host and was all attention to the Delegates who congregated to this unique and important conference in the historic city of Paris.

The Indian delegation played no inconsiderable part in shaping the various decisions of the Conference and, on many controversial matters, it expressed itself with determination, pointing out that if the high ideals of the nobility of the profession and of service above self and of the high code of professional ethics, were not kept constantly in view in giving a practical shape to the World Medical Association, then it would cease to exist as a useful international body.

Speaking generally, it might be said that although the proceedings of the Conference, during its four days' sittings, were frequently marred by unrestrained language, unpleasant incidents, and passages at arms across the floor of the house, they brought out in bold relief some of the difficulties, attending the establishment of a world organisation which has set its hands on a great task, and the supreme efforts made by most of the organisers of the Conference to solve them. The feature that was, particularly, disturbing in the proceedings of the first two days of the Conference when the constitution and By-Laws were under discussion, was the introduction of the method of "bloc voting" resorted to by the delegates of the South American countries who acted as a solid group under the leadership of the delegate of the Medical Association of Costa Rica. Some of the items in the Agenda were not considered on their own merit but on how they appeared to affect the interests of a particular group of representatives. This was sad and, at times, a very distressing and disgusting feature of the proceedings, reminding one of the worst features of the U.N.O. This is full of ugly possibilities for the future and the authorities of the World Medical Association would be well advised to take steps to prevent early wrecking of the organisation on the rock of group-politics in its ranks.

The value of international organisations lies in the amount of good they can render to the greatest number of people and if they fail in serving the interests of a larger number of people than were being served by their national organisations they should be considered as having failed in their objects and missions. Judged by this yard-stick, the World Medical Association holds out promise of much better and more efficient service to the suffering humanity of the world by reason of the weight of its authoritative opinion, in matters relating to Public Health and Medical Relief, which can be brought to bear upon all Governments of the world in remedying those unfavourable circumstances that stand in the way of ensuring the attainment of those conditions that are necessary for the enjoyment of positive health.

UNIVERSITY OF SCHOOL OF MEDICINE

II

CENTENERY OF EVE'S ENTRY INTO MEDICAL SCHOOLS AND COLLEGES

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In the year of grace 1947, who can believe that only a hundred years ago, there was not one medical woman admitted into the Medical Colleges or Schools or allowed proper training and legally recognised, even in the most advanced countries of the world. These hundred years have witnessed a remarkable change, not only in the Sartorial fashions and political status of the fair sex but also in the educational facilities and social privileges claimed and secured by a few far-sighted and noble-minded women pioneers, whose life and work deserve to be commemorated.

Anyone who has been in the City of Madras and attended a hospital, as an out-patient or in-patient, cannot but be struck with the large number of lady doctors in training as under-graduates or post-graduates in the City Hospitals. Almost every year, there is a great rush of brilliant girls with high caste and also high classes, eagerly knocking at the gates of the Medical Colleges in the City as well as in the mofussil. Not only District Head-Quarters but also Taluk Head Quarters and Panchayats, can now boast of popular women doctors, either as Government officers or Local Board employees. There are, in some places, even women private practitioners of all grades (L.M.P., D.M.S., and M.B.B.S.) In the City, there are women medical officers who are highly qualified ond occupying the highest posts, as specialists in many branches of Medicine. Some of them are also on the teaching staff of the Medical Colleges. There are two women professors on the staff of the ordinary Medical Colleges, admitting a majority of men students. There is a separate Medical College for Women at Delhi and another at Vellore, staffed to a large extent, by women professors. The Principals of those colleges are also eminent medical women. Women Doctors have also filled very high administrative posts. The post of the Surgeon-General of the Travancore State was occupied by a lady doctor. The post of Deputy Director of the I.M.S. was also given, during the war, to a lady.

And yet it is a fact—a case of truth being stranger than fiction—that there was not a single woman doctor —not even the hope of a woman ever becoming a doctor—only a hundred years ago. One may, however, turn round and say that the same fact applies to motor cars, aeroplanes and radio sets.

This is not the place to discuss in detail how and where women learned medicine and practised it, in ancient and medieval times. Medical historians quote the famous example of Trotula of Salerno, who is credited with having written a treatise on midwifery. There is no doubt, however, that both in ancient and medieval times, women might have dabbled in drugs or learnt some love potions or poisons. Some learnt in the school of experience and practised crude midwifery. Others probably learnt some bits of information and tips in families of hereditary physicians. None of them, went to school, and had regular coaching, either in theory or in practice of the science of Medicine.

United States of America can be proud that she led the world even in this matter. Elizabeth Blackwell, the first medical woman of modern times, emigrated as a child from Bristol to America. Any girl can read the fascinating story of her struggles to get admission into any medical college in America to study medicine and derive not only great comfort in failure to secure seats but also strength to persist in efforts till one succeeds. But here, let us remember that in 1847, bright persevering Elizabeth wrangled her way into Geneva (N. Y.) Medical Institution. After a course of two years, she graduated with distinction becoming the first woman in U. S. to obtain the M.D. degree. It would appear that she was exceptionally lucky, because, when her sister sought to join the course, and become a second medical woman, all the schools closed their doors to her. As a recent writer in "Life" observed "Mid-nineteenth century America felt that no nice girl should be interested in the study of Medicine." Let us underline that the scene was America, not *Amarloka* and that the time-interval was not in yugas or milliniums but only less than a century—that is, within the living memory of some of American centenarians.

Then, in 1850, only one year after Elizabeth Blackwell graduated as a doctor of medicine, a group of Philadelphians, more considerate and farsighted than others, feeling that girls like Blackwell sisters should be encouraged in their uphill task of securing admission into medical courses, founded what was called "The Female Medical College of Pennysylvania." These pioneers and promoters of women medical education encountered considerable obstacles and obduracy. The American Medical Association refused to recognise "the irregular" institution. No professional journal dared to print the announcements of the new school. The conservative county medical society went to the extreme of excommunicating the professors of the new medical college. There was only one redeeming feature that vitalised and sustained the college. Aspiring young women flocked to the new college, in increasing numbers. By 1867, the institution became well established and highly respectable. Its name was changed to "The Women's Medical College of Philadelphia". The college was so popular that very soon there were many imitators or rival sister-institutions and probably some daughter-institutions, too. For various reasons, these replicas have ceased to function and it is now the only medical college in U. S. solely for women. It has more than two thousand graduates, scattered all over the globe and takes 160 young women as students every year. The first woman medical missionary of America belonged to the class of 1869.

Even in Britain of mid-Victorian epoch, conditions were not far different from those in India in the last century. Young women never considered even the possibility of getting trained as doctors. A few

who dared, encountered much opposition or were refused admission into the medical courses. In Britain, the first woman to qualify in medicine was Elizabeth Garett. She was also a great pioneer, who successfully overcame many obstacles. She took the diploma of the society of Apothecaries in 1865 and it was also as a result of her endeavours and the efforts of a few others, that the London School of Medicine for women, was established in 1874.

Elizabeth Garett entered the Middlesex hospital outwardly as a nurse but really as student. At the end of the year, the board of management decided that they could not allow a woman to continue to study there. No other teaching hospital in London would accept her.

There was also no public examination open to women. The Society of Apothecaries was willing to admit her for its examination, if she had worked as an apprentice under a medical practitioner. Through private lessons and the help of friendly medical men, Elizabeth passed the final examination in 1865, obtained the diploma of the Society of Apothecaries and registered as a medical practitioner.

She started private practice in Barkley Street and prospered. Then she thought of the poorer folk who could not afford to pay her and so opened a dispensary in the poorer quarters. This has become Elizabeth Garett Hospital. This hospital gave training to many medical women—some of whom were from India. Mrs. Scharleib of Madras was in charge of this hospital in 1885, when the founder was away for some months. Mrs. Scharleib's rich experience in India in surgery and obstetrics gained a good reputation for the hospital.

Elizabeth Garett wanted to become an M.D. As no English University would admit her, she had to pass examinations in French language and then proceed to qualify for M.D. Paris. She became the first woman M.D. of Paris in 1870.

She married in 1871 and became Mrs. Garett Anderson. Still, she worked as a doctor.

When she qualified as a doctor, the Society of Apothecaries changed the rules and excluded women from their diploma. Other women who wanted to follow in Mrs. Anderson's footsteps had the door closed.

Among the British Universities, the Edinburgh University was the first to open its doors to women eager to train and qualify for medical practice. But, the pupils had to get their instructions in separate classes. Sophia Jex-Black who received her degree in 1876 was one of these Edinburgh pioneers. But the presence of a woman studying medicine led to riots. Then, the University withdrew its permission.

The progressive women determined to start a school for women in London. Mrs Anderson became the Dean of the school opened in 1874. Among the early students were two, who served in India Miss Edith Pechey, the first medical woman of the famous Cama Hospital in Bombay and Miss Fanny Butler, who became a medical missionary in Kashmir.

The early years of the medical school were full of anxiety. A hospital had to be found which would admit women for clinical practice. No women students were admitted to any examination. When things were looking very dark, the Royal Free Hospital undertook to allow women to practise in its wards. An act of Parliament was passed enabling all British medical boards to admit women to their examinations. The medical school gradually grew and flourished. Mrs. Anderson remained its Dean till 1902 and then became its President. She died in 1917.

The first medical woman that set foot in India was Clara Swain, M.D., who came from U. S. A. in 1869. Later, British medical women began to appear. The first medical woman from England was Miss Fanny Butler, sent out by the Church of England Missionary Society.

If America led the world in women medical education, Madras had the unique honour of initiating and spreading the new impulse in India. The first centre in India to allow women to study for medicine along with the men students was our college, the Madras Medical College.

At the instance of the Surgeon General E. G. Balfour the Government of Madras sanctioned in 1875 the admission of women medical students into the Madras Medical College, allowing them also the facilities either to qualify for the degree of Madras University or for a Certificate of the College. Accordingly, in 1875, along with the men students, four women students were admitted. In 1877, the Government sanctioned the adoption of the curriculum for the women students also and this provision necessitated the pupils to stay in the college for a further period of one year. The year 1878, may be considered as the beginning of a new era in the medical annals of India. For the first time, after the introduction of Western Medicine in India, by the organisation of medical schools and colleges in the presidency towns, the Madras Medical College had the proud privilege of sending out four women doctors, fully trained according to the regulations of the second department, and awarded the certificate to practise the various branches of the profession. The four pioneer women doctors were :—

Mrs Mary Scharleib.
Miss D. White.
Miss B. Beale.
Miss S. Mitchell.

Of these four, the present generation knows only the name and the brilliant career of Mrs Mary Scharleib, who became a foremost consultant in London. It may be pointed out at this stage, that about 1875, even in Great Britain, the subject of admission of women into medical colleges was a very controversial one. This bold experiment was watched with great eagerness by other cities. Enquiries were made from Calcutta and Bombay whether there was any trouble in Madras on account of the admission of the women candidates and when the replies seemed satisfactory and assuring, Calcutta and Bombay also threw open the Medical Colleges to women.

I would suggest that the Lady Hardinge Medical College or Vellore Medical College should celebrate the occasion and issue a small brochure on the subject.

It is a surprise that America and its enlightened women have not yet prepared a film showing the life and work of Elizabeth Blackwall. It is never too late to mend.

* * * *

Who was the first Indian woman to study Medicine ? Where are the records or their biographies ? Will some retired lady doctor or any one of the postgraduate students, undertake a little research into the archives of the respective medical colleges or provincial record offices and enlighten the world ? The Ministry of Health in the Dominion of India, with a highly cultured lady at its head, ought to encourage such medico-historical and cultural activities, among the women doctors of India, to commemorate the great event—entry of women into medicine.

CASE NOTE

CARDIAC IRREGULARITIES CAUSED BY SULPHONAMIDES

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This report is based on the study of 3 cases treated in this hospital in which toxic effects of sulphonamides on the heart developed during the course of treatment and were clinically and electrocardiographically verified.

Following is the brief summary of the cases:

Case 1—Gurcharan 25, H.M. admitted on 25-8-44, with continuous pyrexia, cough with rusty expectoration and pain in the left side of the chest, of 7 days duration. He showed a consolidation of left lower lobe and pleural friction. Marked toxæmia was present. Temperature 103°F, pulse rate 126 per minute, regular in time and force, respiration 40 per minute, B.P. 135/80 mm. Hg. He was placed on sulphapyridine of which 2 gms were given at once, 2 gms repeated after 4 hours and then one gram every four hours. When 8 gms had been given temperature became normal but the pulse became markedly irregular in time and force and marked bradycardia was noticed. The apex beat was in the midclavicular line, slow, irregular and feeble. First sound was faint and 2nd pulmonary sound was accentuated. Blood pressure fell from 135/88 to 118/72 mm Hg. He also became mentally depressed and apathetic. Vomiting was present. The electrocardiogram showed rate 60 p.m., P.R. interval markedly prolonged 0·25 to 0·3 sec, slurred QRS and flattening and notching of T. Sulphapyridine was discontinued and condition of the patient was observed. Next morning the patient showed normal temperature and pulsus bigeminus occasionally interrupted by drop beats. Heart rate was 60 per minute. The neck veins were full and the liver was palpable 2 fingers below the costal margin. Other findings were just the same. Mental condition was considerably better. Pulse subsequently improved. Resolution had started in the lungs. Compensation soon established and hereafter the young man made a good recovery. Pulse was regular at the time of discharge after 20 days.

Case 2—S. Chakravarti, 20, H.M. admitted on 16-1-46. His complaints were intermittent fever of 10 days duration, pain in the right side of the abdomen both in the loin behind and lumbar region in front. A tendency to frequent micturition was present. Examination revealed toxæmia and a light coating on the tongue. Marked tenderness was present in the right loin and ascending colon area. Abdomen was slightly distended with gas—no splenic or hepatic enlargement was present. Lungs were clear. Pulse rate was 100 per minute, regular in time and force. Heart area and sounds were normal. Blood picture showed leucocytosis 20,000 per c.mm. with 75 per cent polys and no malarial parasite. Urine examination revealed slight amounts of albumin and large number of pus cells in each field. Bacteriological examination of the urine revealed preponderance of B. coli but streptococci and staphylococci were also present. The case was, therefore, placed on sulphathiazole of which 2 grams were given at once and one gram repeated every 4 hours with 20 grains of sodium bicarbonate and plenty of fluids. The case showed a very favourable response. Temperature came down to normal within 24 hours and never rose up again. Pain and tenderness were much less and so was frequency of micturition. When 30 tablets (15 gms) of the drug had been given, a marked bradycardia was noticed. Pulse rate fell from 90 to 50 per minute and also became irregular in time. Blood pressure at this stage was 100/65 mm. Hg. Apex beat was normally situated though feeble in force. Heart sounds were distant. Electrocardiogram at this stage revealed appearances of auricular flutter with 3 to 1 and occasionally two to one rhythm, making the intervals between the beats irregular. The drug was stopped and after 48 hours of this the pulse improved and irregularity disappeared. B.P. now was 110/76. The temperature did not recur nor did urinary symptoms. The urine cleared up completely. The case thus made a good recovery. Has not been examined since.

Case 3—Shiv Adhar, 19 H.M., admitted on 14-1-46 with the complaints of continuous fever since 7 days, cough with rusty sputum and pain in the right side of the chest. Examination revealed a consolidation of the right lower lobe with marked toxæmia, the temperature was 102°·5 F, pulse rate 126 per minute, respiration 36 per minute and B. P. 128/78 mm. Hg. Blood picture showed leucocytosis with marked polymorphic increase. The case was placed on sulphayridine of which 2 gms were given at once, 2 gms after 4 hours and 1 gram every 4 hours with 20 grains of sodium bicarbonate and large amounts of fluids. The temperature gradually came down to normal and the

general condition of the patient improved. After 17 grams of the drug had been given, it was stopped. After 24 hours of the stoppage marked bradycardia appeared. Pulse rate fell from 90 to 54 per minute and became irregular with occasional extrasystoles. The B.P. was 100/70 mm. Hg. First heart sound was depressed and faint and 2nd pulmonary accentuated. Irregularity persisted for 3 days after this and gradually improved. Electrocardiogram taken at this stage showed sinus arrhythmia. Consolidation resolved, pulmonary signs gradually cleared up and so did the condition of the circulatory system. The case made a good recovery.

Comments

Out of the three cases studied above, two were of lobar pneumonia and one of pyelitis. The causative micro-organism in the former was predominantly pneumococcus and in the latter B. coli. The former two were put on sulphapyridine (M. & B. 693) and the latter on sulphathiazole. All the three developed symptoms and signs pertaining to heart which consisted of arrhythmias, *viz.*, heartblock, extrasystoles and marked bradycardia, besides slight dilatation of the myocardium, faintness of the sounds, fall of blood pressure and in one case actual early signs of decompensation. These symptoms and signs appeared drugs. We think they were due to the toxic action of companied by other symptoms of upset due to sulpha drugs. We think they were due to the toxic action of these drugs. To our conclusion that this was so, there can be one very logical objection, *viz.*, that the symptoms may have been due to an acute myocarditis set up by the primary infection particularly in the pneumonia cases. But their occurrence during the course of treatment, their being accompanied by other toxic symptoms due to these drugs, their disappearance after the discontinuation of the drugs and their appearance in the B. coli pyelitis case in which infective myocarditis would be a very distant possibility indeed—all point to a direct relationship between the sulpha drug and its toxic action on the myocardium.

Discussion

Postmortem evidence of the occurence of an interstitial myocarditis during chemotherapy with sulpha drugs was produced by French and Weller (1942) who examined 283 hearts, all obtained from individuals who had received one of the sulpha drugs during their illness of various types. Out of these, 126 hearts were found to show a significant interstitial myocarditis and the writers ascribed these lesions to sulphanomide drugs. The lesions consisted of perivascular eosinophilic cellular infiltration in the myocardium and this occurred in a diffuse manner also. Such changes were visible in other viscera too. Areas of focal necrosis in the myocardium were also observed by Lederer and Rosenblatt (1942) and Markel and Crawford (1942) in about a dozen fatal cases due to sulphathiazole. These workers definitely stated that these lesions were not bacterial in origin.

Experimental studies have established the occurrence of similar myocardial lesions in mice and rats on the administration of Neoprontosil, sulfanilamide, sodium sulphapyridine, and sodium sulphathiazole.

Why some individuals should develop these symptoms, which though not irreversible do certainly call for worry, and others should not, is a question deserving attention. Dr. Arnold Rich has established the existence of a hypersensitivity to sulphonamides, particularly in cases where the patient has already received a course of the drug. He has stressed that in such a case, just as in serum sickness, severe anaphylaxis may occur on the administration of a second course and grave symptoms like haemolytic anaemia, drug fever, severe eruptions, granulopenia, renal "strike" and polyarthritis may appear. We have seen some of these complications and are inclined to think that it is this sensitive class of patients who probably exhibit the cardiac symptoms too and much worry can be avoided if a history of previous course of sulpha drug therapy in every case is ascertained.

Wesley Spink (1943) has clearly mentioned that "an increasing number of persons is acquiring sulphanomide hypersensitivity due to wide spread use of the drugs and failure to recognise this factor in sulpha drug therapy has resulted and will result in disasters".

He thinks that out of all preparations sulphapyridice, sulphanilamide, and sulphathiazole are most liable to give toxicity. Very few reactions occur with sulphadiazine and sulphamerazine.

Summary

1. 3 cases of cardiac irregularity and myocardial damage during the administration of sulpha drugs have been reported.

2. Post-mortem evidence from literature of pathological changes in the myocardium has been quoted.

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JOURNAL OF THE
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WORLD MEDICAL ASSOCIATION

The formation of a World Medical Association was decided in a conference held under the joint auspices of the Association Professionelle Internationale des Medicins and British Medical Association on September 1946. It was felt that an international liaison and organisation was necessary to keep the freedom and tradition of the medical profession which were menaced by reactionary forces in many countries.

On 18th September 1947, the first session of the World Medical Association was held in Paris. It was attended by representatives of 48 countries of the World. The objects of the Association are :— (1) to promote closer ties among the national medical organisations and among the doctors of the World by personal contact and all other means available (2) to maintain the honour and protect the interests of the medical profession (3) to study and report on the professional problems which confront the medical profession in different countries (4) to organise an exchange of information on matters of interest to the medical profession (5) to establish relations with and to present the views of the medical profession to World Health Organisation, the U. N. E. S. C. O. and other appropriate bodies (6) to assist all peoples of the World to attain the highest possible level of health and (7) to promote world peace. It will be seen that the main field of action of the W.M.A. will be medico-political work leaving the scientific and academic aspects to the national medical associations. The conference deliberated from 17th to 20th September. The constitution and bylaws as adopted, relates to the objects of the W.M.A., eligibility for membership, rate of subscription, composition of the general assembly and the council, voting power of member association, official language of the organisation and election of officers. In this connection we are glad to note that in the final adoption of the rules and bylaws, the representatives of the I.M.A. took an active part. The details will be found in an illuminating report published elsewhere in this issue.

In the first annual meeting of the general assembly the treasurer reported that revenue derived from subscriptions would fall short of the requirements. At this stage the American delegate, on behalf of some industrial friends of the American Medical Association offered $50,000 a year for 5 years to the W.M.A. on certain conditions. While appreciating this generous offer many delegates including our President Dr. P. B. Mukerji who represented I.M.A. raised objection to the terms imposed with the offer which were subsequently modified and the offer was accepted. The Indian delegate participated in the discussions and contributed to the smooth working of the meetings. It is gratifying to note that India has obtained a seat in the council of World Medical Association, Dr. S. C. Sen, securing the third highest vote in the election. It is quite easy to understand that the birth pangs of a world-wide organisation with such noble objects would be unassociated with any excitement and as such much plain speaking was resorted to. At times system of 'bloc voting' was followed by a group of delegates when items were considered solely from group interest, ignoring the general merit. Group politics and group interest may make or mar the W.M.A. if proper precautions are not taken at this early stage. We hope that the next meeting which will be held at Prague, Czechoslovakia, will have better atmosphere of goodwill and reason.

The World Medical Association holds out great promise in the field of international public health and medical relief. Such an organisation can also safeguard the freedom and intergrity of the profession. Moreover these yearly meetings will create understanding mutual respect and comradeship among the profession in different parts of the World. The history of international political organisation is not happy. Nobody wants this medical organisation to have the same fate. This can only be prevented if everyone of us rise above petty self interests and avoid group politics in the interest of a bigger ideal. It is up to the W. M. A. to show how international organisations can function in a peaceful atmosphere in the interest of the profession and the suffering humanity.

CURRENT TOPICS

I

A. M. A. CENTENARY

A summary of the proceedings of the Centenary Meeting of the A. M. A. is printed below. In the space available it is possible to refer to only a few of the many interesting exhibits and papers. Eighteen different sections were holding simultaneous meetings ; the House of Delegates was conducting its business at the same time ; and on top of this there were the superb scientific exhibits to visit.

Scientific Exhibits

The scientific exhibits were assembled under the general direction of Dr. Thomas G. Hull in the Convention Hall in Atlantic City—the largest hall for this purpose in the U. S. A. The general layout of the exhibits was similar to that of some of those housed in the Welcome Museum. Each consisted of a booth whose back and side walls were used for the exhibition of charts, diagrams, maps, x-ray films, photographs, mounted specimens, and anatomical models. Pamphlets describing the work of the exhibits were obtainable, and the exhibitors themselves were on duty most of the day to demonstrate and discuss the work shown.

The majority of the exhibits were competitive. A gold and a silver medal and other awards were given for two classes of entry. Drs. George E. Burch and Paul Reaser, of the Tulane Medical School, New Orleans, won the gold medal for original work with their exhibit entitled "Radio Element and Mechanism of Congestive Heart Failure : Radiosodium (Na and Na)". This work showed that in patients with congestive heart failure "there was a much more prolonged retention of sodium than in the normal subject". The awards in the second group were for exhibits which "do not exemplify purely experimental studies but are judged on the basis of excellence of correlating facts and in their presentation." The gold medal in this case went to Drs. George F. Cahill and Meyer M. Melicow of the Squier Urological Clinic, Presbyterin Hospital, New York, for the exhibit on tumours of the adrenal gland.

In addition to entries falling into these two groups the committee sponsored four special exhibits : on cardiovascular diseases, fractures, fresh pathological material and physical medicine. The cardiovascular exhibit under the guidance of Paul Dudley White, of Bosten, covered an amazingly wide range, and included a fine selection historical works on the heart and the circulation. Under the chairmanship of Kellogg Speed, of Chicago, the fracture exhibit was accompanied by continuous demonstrations throughout the week ; in order to make this possible no fewer than thrity orthopaedic surgeons assisted the committee.

A group of workers from the University of Minnesota presented an interesting exhibit on the physiological problems of bulbar poliomyelitis. The epidemic of last year, the largest since 1916, attacked 25,191 persons throughout the U. S. A. There were 2,875 cases in Minnesota alone, and the exhibit was based on the experience obtained in treating 183 patients suffering from bulbar poliomyelitis, classified by the Minnesota group thus : (1) Cranial Nerve Nuclei Type, with the symptom of difficulty in swallowing. (2) Respiratory Centre Type, with deficient oxygenation of the blood. (3) Circulatory Centre Type, with changes in pulse rate, rapid fall of blood pressure, and the general symptoms of shock. (4) Encephalitic Type. "Many patients with involvement of the bulb of the brain show signs of confusion, apprehension, and anxiety. These symptoms are chiefly due to the lack of oxygen in the brain. Only rarely is there actually virus infection of the cortex of the brain producing these typical encephalitic symptoms." (5) Bulbar-cervical Spinal Type. Patients have a mixture of the above symptoms and also may show paralysis of the muscles of respiration. Treatment includes nasal tube feeding, tracheotomy, and oxygen therapy. The exhibit included the oximeter—an electronic device which, clipped on the patient's ear, immediately records the amount of oxygen circulating in the blood stream.

Another exhibit on poliomyelitis was presented by the National Foundation for Infantile Paralysis. With modern methods of treatment, it was stated, approximately 50 per cent of cases of poliomyelitis recover completely ; approximately 20 per cent suffer severe and another 20 per cent mild paralysis ; the mortality rate is 5-10 per cent. According to maps showing the distribution of poliomyelitis throughout the world, the first sizable European epidemic appeared in Norway and Sweden in 1905 ; the first sizable epidemic in the U. S. A. occurred in New York City in 1907. Severe epidemics did not arise in Japan until 1938 and 1940.

Before leaving the subject of these exhibits some mention must be made of the motion pictures. The scope and variety of these can best be suggested by the fact that three theatres were in continuous operation and each was showing something in the neighbourhood of twenty films a day.

The enormous size of the Convention Hall (its floor space would engulf St. Paul's Churchyard), and the equally enormous wealth of many of the firms exhibiting, combined with the native American flair for advertising, produce an impression of colour and luxury which would be startling, even shocking, to post-war English eyes. It is of course impossible to know the total amount of money spent to produce these stands, but unofficial estimates varied between three and five million dollars.

One firm demonstrated the advances in a century of anaesthesia by means of a mechanical puppet show, complete with drop curtains and instrumental overture. The curtain goes up upon an operating theatre where an anaesthetist explains the progress of anaesthesia to one of the original A. M. A. delegates who has returned to this world for a brief look round. The demonstration is remarkably complete, even to the movement of the puppet's arms, head, and lips, and the lecture is illustrated upon a miniature screen. The manufacturers state that it is "the expressed opinion of many of the visiting surgeons that this exhibit is a museum piece." It seems fair comment.

Summaries of Papers

Nitrogen Mustards—Drs. Leon O. Jacobson and Charles L. Spurr, of the University of Chicago, read a paper on nitrogen mustards in the treatment of disease. Developed originally as poison gases, nitrogen mustards have been used with encouraging results in the treatment of Hodgkin's disease. Fever, pruritus, and malaise are frequently relieved within a few days of treatment, and there is slow regression in the size of the liver and spleen and of the enlarged lymph glands. Nitrogen mustards, according to Drs. Jacobson and Spurr, have produced significant clinical remissions in Hodgkin's disease, lymphosarcoma, chronic lymphatic leukaemia, chronic myelogenous leukaemia, and in polycythaemia rubra. The drug was without effect in acute leukaemia and multiple myeloma.

Cancer of the Stomach—Dr. Owen H. Wangensteen, of Minneapolis, observed that: (1) Cancer of the stomach was the most frequent of all malignancies; (2) that the death rate from it was high in almost all countries, comprising 25-40 per cent of all deaths from cancer; (3) that in the U. S. A. cancer as a cause of death ranked next to heart disease and that of the 150,000 annual deaths from cancer approximately 40,000 resulted from cancer of the stomach; (4) that at present the only worthwhile treatment was surgery. Many patients with cancer of the stomach were inoperable when they first consulted the physician: only 25 per cent were "suitable candidates for a curative type of operation." Dr. Wangensteen considered the problem was to persuade all men and women who had reached the "cancer years" to undergo periodic examination. Figures indicated that one woman out of every five past 40 years of age would die of cancer and one man out of every six past 50. He urged the setting up of cancer detection clinics at strategic places manned by competent specialists in the various branches of medicine and surgery.

Virus Diseases—Dr. Edwin W. Schultz, Professor of Bacteriology at Stanford University, California, said that viruses had a wide variety of hosts. The discovery by Dr. E. W. Goodpasture that the developing egg could be used as a growth medium for viruses was a milestone in the study of these organisms. Also of great importance was the electron microscope and the use of colloid filters for classifying viruses according to size. The difficulty of treating virus disease in man lay in the fact that a virus particle, once lodged in a cell, was apparently out of reach of drugs which might be carried by the blood stream, while antibodies were too large to follow the virus into the cell. "Recently reported results following administration of sulphonamides and penincillin in certain individual virus and rickettsial infections suggest that such an approach may not be entirely out of the question, he said. Effective immunization against many virus diseases seemed to require the use of active virus, but strains safe enough for use as vaccines were few in number. Vaccine virus, fixed rabies virus, and strain 17D yellow-fever virus were three outstanding examples.

In a paper on the electron microscope Dr. Ralph W. G. Wyckoff said that magnification by as much as 100,000 times could be obtained. "The largest viruses have distinctive shapes. Some are brick-like, the poxes. Some bacteriophages are sperm-like with heads that show characteristic internal structures and tails whose appearance depends on the strain. All the very small animal viruses and most of the plant viruses thus far photographed are spherical or nearly spherical particles."

Idiosyncrasy to Drugs—Dr. Carl A. Dargstedt, of Northwestern University Medical School, Chicago, in a paper read before the Section on Experimental Medicine and Therapeutics, said that idiosyncrasy to certain drugs represented one of the most challenging of all problems in medicinal therapeutics. There was no satisfactory explanation as to why some people became allergic to certain drugs and some people did not. "Experience has taught us that idiosyncrasies to aspirin, aminopyrine, the organic arsenicals, the sulphonamides, thiouracil, quinine, and many others, are considerably more frequent than to alcohol, amphetamine, cascara, chloral hydrate, digitalis, and the like; but there is little ground for any generalization that would have prophetic value as to the potentiality of idiosyncrasy for a hitherto unknown drug".

X-Rays and Wound Infection—Dr. James F. Kelly, of the Creighton University School of Medicine, considered there was no justifiable reason for not using x-ray irradiation for the prevention and treatment of wound infection. It was simple, and cost little. The dangers from such application of the rays were less than the dangers associated with many other forms of prophylaxis or therapy. The application of x-rays in acute infection was followed by favourable clinical reactions—decrease of pain, localization of the infection, conservation of tissue, prevention of secondary infections, and shortening of the course of the disease. He claimed that x-rays had proved very effective in the treatment of gas gangrene: in a group of 46 cases treated by x-rays but receiving no serum the mortality was 4·34 per cent.

Peptic Ulcer—Sir Heneage Ogilvie, reviewing the treatment of peptic ulcer, observed that "whatever we wish to believe regarding stomach ulcers, we can find evidence in experimental work to prove theory". The only factor on which there was unanimity of opinion was the part played by hydrochloric acid. Peptic ulcers were common where hydrochloric was high, rare where it was low, and unknown where it was absent. It had been estimated that in the U. S. A. 6,500,000 persons suffer from peptic ulcer.

Dr. Samuel F. Marshall, of the Lahey Clinic, Boston, said that over a 10-year period there had been in his clinic approximately 8,000 peptic ulcers with a ratio of 10 duodenal ulcers to one gastric. He urged that operation should be performed whenever a diagnosis of gastric ulcer was in doubt. "We believe that all patients with chronic or recurring gastric ulcers should be operated on without delay because of the considerable percentage of diagnostic error and because resection can be done with so great a margin of safety." Early recognition of cancer of the stomach presented

a challenge to the medical profession, because in many cases the diagnosis was made too late.

Dr. Maurice Feldman, of Baltimore, in a paper entitled "A Statistical Study of the Life Cycle of 1,154 Cases of Duodenal Ulcer," stated that although the cause was still debatable there was no doubt about the association of psychogenic factors. In the majority of cases of duodenal ulcer symptoms began between the ages of 20 and 35.

The psychogenic factor in peptic ulcer was stressed by Drs. Jurgen Ruesch and Karl M. Bowman in a paper on personality and chronic illness. "We have been able to show," they stated, "that in chronic disease in general, in duodenal ulcers, and in thyroid patients, there is an unusual number of social climbers and strainers.....In ulcer and thyroid patients in particular there was an unusual incidence of foreign-born and native-born persons of foreign parentage. This fact would indicate that culture change and the resulting conflict of values were a source of stress and strain in these patients."

Psychotherapy in Practice—The importance of psychotherapy in general practice was emphasized in papers read by Dr. Edward Weiss, of Philadelphia, and Dr. Walter C. Alvarez, of the Mayo Clinic. Dr. Weiss defined psychosomatic medicine as "the simultaneous application of a study of the patient's mental and physical life." Although "psychosomatic" was a new term it described an approach to medicine as old as the art of healing itself. "In our elaborate medical institutions," Dr. Weiss observed, "with a lack of knowledge of the patient's background, we overemphasize the so-called scientific aspects of medicine and relegate to the background the social and emotional factors that may enter into illness. As a consequence our methods of taking a patient's medical and personal history have not kept pace with general progress in medical science." He emphasized the value of the service given by "the old family doctor" who "relied heavily on psychosomatic techniques even if he didn't know it." He urged that the doctor intending to go into general practice should have more training in psychiatry.

Liquid Oxygen—The use of liquid oxygen in skin disease was discussed in a paper read by Drs. Roy L. Kile and Ashton L. Welsh. Liquid oxygen was applied by cotton wrapped around a wood applicator. Liquid oxygen was inexpensive and, with reasonable care, safe to use. It was easier to handle that was carbon dioxide. Liquid oxygen was so cold that the lesion rapidly turned white. A thorough freezing of the lesion occurred in a few seconds. With it they had treated warts, hæmangiomas, leucoplakia, seborrhœic and senile types of keratosis.

Longevity and Mortality of American Doctors—A preliminary report of the longevity and mortality of American physicians from 1938-42 was made by Dr. Louis I. Dublin and Mr. Mortimer Spiegelman, of the Metropolitan Life Insurance Company. According to these statisticians the average young physician entering the profession at the age of 25 has 43½ years of life in front of him. On reaching the age of 35 the physician on an average has almost as many years remaining as he has already lived. At the age of 45 he may expect a further 25 years of life. "Almost 12 additional years of life remain to the average physician attaining the age of 65, a frequent age for retirement."

The insurance company's study is based on records of living physicians and on the deaths of active and retired physicians for the period 1938-42. The general conclusion was that "physicians experience practically the same longevity and mortality as white males of the same ages in the general population." Knowledge of hazards to health give physicians an advantage. "Evidence in this direction is found in the favourable mortality for most infectious diseases and surgical conditions and from accidents. The death rate from tuberculosis among male physicians is less than half that of white males of the same ages in the general population; for syphilis the ratio is only one-third. The death rate from cancer among male physicians is four-fifths of that for white males of the same ages; in the case of appendicitis, hernia, and intestinal obstruction the ratio is three-quarters. These advantages are offset by a relatively high mortality from the cardiovascular conditions. In particular the recorded death rate from diseases of the coronary arteries among male physicians is 1·4/5 times that of white males of the same ages in the general population." Mortality from leukæmia among male physicians was found to be 1¾ times that of white males generally. Dr. Dublin and Mr. Spiegelman repeated the opinion recently expressed that physicians may have acquired the disease as a result of exposure to x-rays. "Far outstanding on the mortality list are diseases of the heart and coronary arteries, with 40·7 per cent of the total deaths."

—*Brit. M. J.*, **2**:64, 1947.

II

INDIAN MEDICAL MISSION IN INDONESIA

Dr. P. B. Mukerji, B.SC., M.B., F.R.C.S., F.F.R., D.M.R.E., Calcutta, the President of the Indian Medical Association, on hearing an appeal for medical help over the radio of the Indonesian Republic, suggested to the Government of India for despatch of a medical mission to Indonesia. The suggestion was taken up by the Government and it was settled that the proposed Medical Mission be organised by the Indian Red Cross Society and the I.M.A. jointly, the Indian Red Cross Society to provide medical stores and equipment and the I.M.A. to provide medical personnel.

The following are excerpts from the penpicture of the life in war-time Indonesia by Major Sudhansu Kumar Roy, M.B., I.M.S. (RETD.), a member of the Indian Medical Mission in Indonesia:

The Indian Medical Mission was headed by Dr. P. L. Nirula; myself and Dr. Bimal C. Sen were the other two members. We were told that the special plane chartered for the trip was a Dakota belonging to the Tata Air line, which would leave Dum Dum Aerodrome on the morning of the 23rd August, 1947. The plane was loaded with 3,000 pounds of medical stores. Another R.I.A.F. plane would be leaving the

following day with another load of 4,000 pounds of medical stores. This plane would dump the stores at Singapore and come back to India. The Tata plane would go with us to Jogjakarta, capital of Indonesia, come back to Singapore and make a second trip from there carrying the stores left by the R.I.A.F. plane to Jogjakarta again. The duty of the Medical Mission was to study the medical conditions in Indonesia, to see what was needed there most, namely what type of medical personnel and what medical equipment were urgently needed there and report back the same to India.

Journey to Indonesia

On the 23rd August we were all ready in the Dum Dum Aerodrome for our trip to Indonesia. The plane was well-marked with Red Cross in both the wings and under the plane, Capt. P. B. Mukerji, President of the Indian Medical Association, Dr. P. K. Guha, the Secretary, Sardar Bahadur Balwant Singh Puri, Secretary-General of the Indian Red Cross Society, the Indonesian representatives at Calcutta and newspaper representatives saw us off.

The crew of the Dakota were 5 in number and all were Indian. On the 23rd night we halted at Akyab, as Rangoon would not receive us the same day, the aerodrome being under repairs. On the 24th morning we left Akyab at about 7-30 A.M. and reached Rangoon Aerodrome at about 11 o'clock in the morning. We left Rangoon after mid-day and reached Bangkok about 4 o'clock the same afternoon, where we halted for the night. Mr. Ayer, Vice-Consul of the India Office at Bangkok, received us in the afternoon. He had got a Radio message that a Red Cross plane would be reaching Bangkok with 3 Indian doctors and medical stores for Indonesia on the 24th afternoon. After dinner in the hotel "Trokedero" we went out to have a look of the city of Bangkok. It is a typical oriental city with modern palatial houses by the side of open filthy drains.

We landed at Singapore at Kalang aerodrome about 2-30 in the afternoon. Newspaper reporters with cameras, International Red Cross representatives, Mr. Sethi, an officer from the office of India's representative at Singapore, Mr. Ottway and Dr. Hasan, representatives of the Indonesian Republic at Malaya, were present at the aerodrome to receive us. We drove from the aerodrome to the hotel "Adolphe" where we stopped for the night.

In the hotel at Singapore Mr. Swetzer, a Swiss gentleman, the head of International Red Cross, then spoke to us about the arrangements made for our safe passage through Batavia. Mr. Pfinnger, another Swiss gentleman and representative of International Red Cross would accompany us to Jogjakarta *via* Batavia. He would radio the information to Batavia, the same afternoon, that an Indian Red Cross plane with medical stores, 3 Indian doctors, and the International Red Cross representative, would leave Singapore the following morning for Jogja, *via* Batavia, and no harm should be done to the plane.

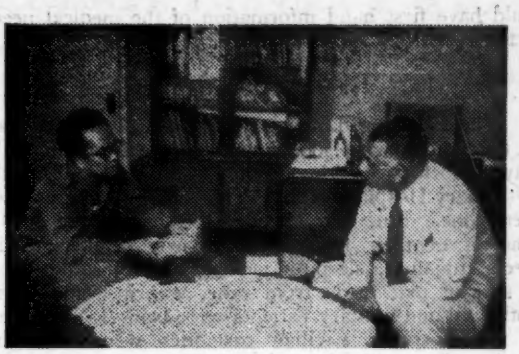
The following morning we took off from the Kalang aerodrome at 6-30 A.M. Mr. Pfinnger was travelling with us as our safe escort. The previous evening when the manager of the hotel at Singapore came to know that Mr. Pfinnger was a sort of safe conduct for the plane, he asked him to see, that "the plane did not land too fast." Every body had some misgiving in the back of his mind. The Indonesian Republican territory was completely blockaded by the Dutch and the last plane, belonging to Mr. Patnaik of Orissa, which had brought out Dr. Sjahrir from Indonesia to India and was going back to Jogjakarta, with medical stores was shot down by 2 Dutch fighter planes near Jogjakarta, though it was alleged that safe passage was guaranteed by the Batavia Radio. Eight precious lives were thus lost along with the plane, there being only one survivor. We were flying at a height of 13,000 ft. At about 9 o'clock the Captain told us that we were crossing the Equator. A sharp bump of the plane indicated when we crossed the belt. At about 10-30 A.M. we landed at Batavia Aerodrome. A Dutch military police was promptly posted at the door of the plane. The Customs people came and opened several packing boxes and personal luggages of ours. Nothing incriminating was found in any of the packages. Some Indonesian gentlemen, International Red Cross representatives, a Swiss gentleman as usual, and newspaper representatives received us in the aerodrome.

We took off in an hour's time from Batavia. In the plane we were reading the newspapers of the day published at Singapore a liberal supply of which were given to us by the Indonesian gentlemen, Dr. Ottway and Dr. Hasan, who saw us off at Singapore aerodrome. While flying over the Indonesian territory we flew just over a volcano, where the crater could be clearly seen while flying over it. At about one o'clock, we came over Jogjakarta, the plane circled over and over above the air strip, but no radio message greeted us. The captain was a little worried, he made a circuit over the town several times, and at last decided to land, radio message or no radio message to signal us for landing. One could see wrecks of planes lying scattered over the aerodrome, from the air, and streams of people and cars heading for the aerodrome in a hurry. The plane made a graceful landing, like a white dove carrying a message of hope and love from the people of India, to the war-torn people of Indonesia. They recollected with grief what was the fate of the last plane while she was trying to land at the same aerodrome. That too was a plane from India, carrying much-needed medicine for the suffering people. To the Indonesians, the Indian Dakota was a challenge to the Dutch, "Dare if they will to destroy this plane also", and the Dutch bowed down to the challenge!

Hundreds of people had collected at the aerodrome to receive us. Air-commodore Sarya-drama told us that the Radio set had been removed from the landing ground as the Dutch might bomb the place again. Dr. Meramis, Finance Minister and Vice-President of the Indonesian Red Cross, and Dr. Lemina, the Minister of Health, were there to receive us.

We drove from the aerodrome to Jogjakarta, the capital, which was about 6 miles away, the road full of anti-tank ditches and barricades. We saw the villagers digging the ditches and making the barricades.

AT THE JOGJAKARTA AERODROME. L. TO R. CAPT. MAC ADAM (PILOT) DR. NIRULA, MR. RAO (ENGINEER), DR. SEN, AND MR. PFINNGER (INTERNATIONAL RED CROSS REPRESENTATIVE)



DR. SJARIFUDDIN (LEFT), PRIME MINISTER OF INDONESIA, DISCUSSING SOME POINTS WITH DR. P. L. NIRULA

It was like a rude shock to make one alive to the fact that one now was in a country which was at war.

We went straight to the house of the Prime Minister Dr. S. Sjarifuddin where we were offered some cold drink and stayed for about half an hour. We then drove to the Hotel Merdeka (Hotel of Independence) where a guard of honour of about 200 young Red Cross girls, with gowns and frocks, were waiting for us. It was a pleasure to inspect this parade of all these healthy girls, who were doing so much for their suffering country. A public lunch was already arranged in the hotel, where Dr. Meramis, the Finance Minister and Vice-President of the Indonesian Red Cross welcomed us in an after-lunch speech and Dr. P. L. Nirula, leader of the Medical Mission, made a suitable reply.

MAJOR S. K. RAY INSPECTING THE GUARD OF HONOUR OF RED CROSS GIRLS AT JOGJAKARTA

In the afternoon a reception was arranged for us by the members of the Indian community there. Really more than 15 representatives of different organisations, including women's organisations welcomed us, and thanked the Indian Red Cross, Indian Medical Association, Indian people and Government for this timely help.

The following morning (the 27th Aug.) a conference was held between Indonesian Red Cross representatives and ourselves, in our residence, one of the two houses reserved for guests from foreign countries. We discussed the medical problem from both civil and military standpoints. A programme was made for our visiting different military and civil hospitals, that we

could have first hand information of the medical need of the country.

Jogjakarta Central Hospital

The following day we visited the Central Hospital of Jogjakarta, with 500 patients in the hospital, with only 5 doctors working. The hospital was a Dutch Missionary Hospital before. The building was a magnificent one. But, alas, inside, the beds were sadly deficient of their mattresses, pillows, blankets, bedsheets, pyjamas, sleeping jackets, and mosquito-nets. A sort of mat made from cane, was in some beds. Both civil and military patients were being looked after in this hospital. Civilian casualties were more in number than military victims. Fracture cases were being set under plaster of paris, without supervision by qualified doctors, the result being mal-union in some cases. Bandages and dressings were being washed and rewashed and used again. The clinical laboratory was terribly deficient in re-agents. The X'ray plant was not of any use except for screening, for lack of films. Sulpha drugs were being prescribed only 4 tablets daily, where much more higher dose was indicated. No arsenic or bismuth preparations were available for injection. Gonorrhoea cases were being treated with old lavage, massage and washes. They were left as if to stew in their own juice. Male and female patients were accommodated in the same wards, there being no purdah system in the country; many of the patients were paying charges varying from 20 guilders to 1 guilder per day. General cleanliness of the wards was good. There was also shortage of rubber gloves. Ordinary medicines like Mag Sulph, quinine preparations, antitetanic serum etc., were sadly lacking.

Dr. Soekarno

Before visiting the hospital we were invited to breakfast with the President Dr. Soekarno. He is about 46 years old, a greatly learned, and well-read man, much interested in Indian Politics. His knowledge and information of Indian politics and Indian struggle for independence were really astonishing. As a matter of fact he admitted that he had been influenced greatly by life histories, writings and teachings of the Indian leaders.

He also freely admitted the influence of Indian culture on Indonesian life and he said that he had possibly 10 per cent of Indian blood in him, his mother being a Ballinese Hindu lady.

On the same day the Indian Red Cross plane brought their second supply of medical stores from Singapore, *via* Batavia.

Shortages of Medical Supplies

We stayed 3 weeks in Indonesia, which consists of the Islands of Java, Sumatra and Madura, with a population of 70 millions. The population of the area under direct control of the Republican Territory is 23 million. We could not visit the Dutch controlled area nor could we see the areas, though controlled by the Republic but cut off from the Republican Headquarters. We toured the country extensively by train and car and thus gained firsthand knowledge of the medical organisation of the country. We visited hospitals at Jogjakarta, Solo, Blitar, Kediri, Torrain, Clatan and the sanatorium at Pakam. We also visited R.A.P. at Nandipura and Advanced Dressing Station of Tompang. Everywhere the same story of terrible shortage of medical men and supplies were told. In one hospital, barks of banana plants were being used for bandages. Strong cotton threads were being sent for cat-guts and silk-worm-guts. Of course bandages and dressings were being washed and used again and again as already stated. In the Regimental Aid Post of Nandipura (an Indian name) there was no doctor, but a girl from the village had volunteered to work as a nurse and she could speak English well, the average educated people knowing Dutch, French and German languages. There was also a terrible shortage of ambulances, result being that patients had to be carried on hands some time 2 or 3 miles. There was no shortage of buildings for these Advanced Aid Posts, as many houses were deserted. One good thing for the hospitals was that there was adequate number of male and female nurses.

In Jogja, in a hospital of 500 patients, there were 360 male and female nurses, which is much better than any hospital in India. In an average one doctor was looking after 75 to 100 patients. In Batavia University only 15 students are taken every year for medical education. Many of the doctors are Chinese, and the Chinese private practitioners are doing very well.

We visited the Vaccine Laboratory at Clatan, which again was deficient in supplies. There is only one house from which antitetanic serum could be produced. Rubber gloves were being made there, 20 pairs a day, though not of very good quality. Blood transfusion sets were being made there. They were also producing ether locally. In an adjacent glass factory near the Clatan laboratory, glass tumblers, flasks, jars, tubes, ampoules, etc., were being made under the supervision of an enterprising doctor.

Dr. Sen and myself worked for some time in Jogjakarta hospital, to find out the difficulty of an Indian doctor. We felt that we could not be of cent-per-cent use as we did not know the language. Measures and wts. in medicine are used as those in vogue in the continent of Europe. It would take 2 months for an Indian doctor to learn a workable knowledge of Malaya. The question of food for an Indian also to be taken into consideration. Most of the food is cooked in cocoanut oil, and fish is not readily available.

The common diseases of the country are malaria, tuberculosis, and yaws. Though Java is famous for producing quinine in the world, there is at present no quinine producing factory in the Republican Area. Yaws and tuberculosis are very common, the percentage of each disease being more than 7 per cent of the total cases treated in hospitals.

Land of Luxurious Crop

The whole country is a patch of green throughout. I have visited several countries of Asia (including all the provinces of India) and I have not seen a country

more green, and it is a delight to the eye to move in the interior of the country. Not a piece of land is lying fallow or uncultivated. Two or three crops are produced in a year from a plot of land. There is an abundance of paddy which is lying unused, which was meant for export to India, but this can not be done now because of the complete Dutch blockade. Cocoanut, tapeoca, tea, coffe, teak wood, and sugar canes are produced in abundance. It is a delight to see some of the furniture of the houses. Fruit is also in abundance, bananas, papya, mangoes, (season is in December), pine-apple, tomatoes etc. are grown in abundance. Of course Java is famous for quinine. There is an abundant supply of petrol.

The country has been occupied by the Dutch for more than 350 years, and they have developed it well. Good motorable roads take one in the interior of villages, where one can use a telephone. There being no coal field in the Republican Area at present, trains are run on burning wood, and the speed of the trains are 20 to 25 miles per hour. Many factories of sugar and coffee have been destroyed because of the scorched earth policy. All the beautiful roads including those of towns, are full of anti-tank ditches and barricades, which make motoring difficult, sometimes dangerous. Big trees more than 100 years old, on either sides of these lovely roads, have been almost completely cut through, so that they may be brought down in a few minutes on the approach of the Dutch.

Education—Script

The country was declared independent on 17th August, 1945 after the fall of the Japanese. They fought the British and the Indian troops after that and now they are fighting the Dutch. Really the Republic did not get much time to consolidate their position. What they have learned of managing the State, they have learned from the Japanese. During the Dutch regime the Indonesians did not have any voice in the management of their country. The people are well-fed and healthy. During our stay of 3 weeks, we saw only half a dozen of beggars in the country, and they too were well-nourished. There is no purdah amongst the women. Educated girls use European dress. In secondary schools, they learn Dutch, French, German and English languages. The language of the country is more or less Malaya language, script being Roman, old script being something like Deva Nagri, which is not used.

Diet

There is not much use of fish, chicken is found in abundance. One peculiarity is that the Indonesians do not use milk or milk product. Hot tea with plenty of sugar but no milk are used very frequently. They do not drink cold water either. If they drink water at all, it must be hot water and it was with difficulty sometimes that we got cold water. The result is that cholera, dysentery and typhoid are very rare. Mrs. Satyajit, a Mohammedan lady, wife of the Vice-Premier, brought up and educated in Holland, was astonished to hear from me, that we use milk and milk products in India. Chinese are an important minority, who form the backbone of the economic structure of the country, and it is said that they are pro-Dutch, the result being that there has been cases of atrocities against the Chinese.

Culture

98 per cent of the people are Mahammadans, but would scarcely feel from their daily life, that they are Mohammedans; they are certainly not aggressive types of Mohammedans, and religion is not foisted in public life. The Ramayana and the Mahabharata still play a great part in their social and cultural life. Images of Krishna, Bhima, Ganesa, Hanumana and other Hindu gods and goddesses are freely seen in houses. Many of the names are still Hindu names, as Suotomo, Sarvona, Puja etc. The name of the girl steno-typist who was working for us was Miss Pragna Pramita Abdur Rahaman. And I have already mentioned of Mrs. Satyajit. One could scarcely forget, that these people were Hindus before, and though Mohammedan now, have still retained marks of Hindu culture in their life, and they are not at all ashamed of this fact.

The country is still studded with Hindu and Buddhist temples. We visited the biggest temple of the whole archaepelago, "Bara Budhur", a temple giving the history of the life of Buddha, depicted in the stones of walls of the temple. The towering minaret of the temple arrests the eye from miles away. We also saw the temple at Prembanan, which is a famous Hindu temple. Old statues and relics in the museums of the country also show remains of Hindu culture in the island. In the language of the country, there are also undiluted Sanskrit words, as Predana Mentri, meaning Prime Minister.

Standard of Living and Indians

The average standard of living is higher than that in India. We did not see any thatched house in the whole country. The poor man's house is made of tiled roof, wood, cane or bamboo-chatai walls, every house has a kitchen, store room, living room and sitting room with cane furniture. None sleep on the floor, a type of charpoy is always used in every household. The country is famous for its silver wares, a big silver plate was presented by the Government to Indian Red Cross which was brought by us.

I must add a few words about the Indian community in Indonesia. There are not many Indians in Jogjakarta there being only 20 families. In Solo, Batavia and other big towns the numbers run into a few hundreds. Most of them are the enterprising Sindhi Hindus, who do business in the country, and are quite well-off. In addition to these, there are about 550 Indian soldiers, most of whom deserted the Indian Army when Indian troops were stationed there in 1945 and 1946. A few were prisoners of war. They have organised themselves into 2 groups, Independent Asiatic Force and Volunteer Indian Troops and are now fighting along with the Indonesian Forces. Living conditions not being as it should be in the Indonesian Army, most of these men are very much dissatisfied

and want to come back to India. To add to their difficulty, communal question of Hindus and Muhammedans are very acute amongst themselves. The Hindus of the Armed Forces are living in a constant terror of the Subedar, and on my request, they were being attached to Indonesian battalions in groups, where they felt safer. The life of these soldiers there is not as it should be. They are a living example of the bad name of India in a foreign land, and they should be brought back as soon as possible in the interest of everybody concerned.

Respect for India

We stayed 3 weeks in the country. During the time everybody from the President, down to the humble man of the street, was hospitable and helpful. Never was the name of India more respected and honoured in a foreign country than in Indonesia. To them, India was a living symbol of help and sympathy in their hours of need. The medical mission went there just in the psychological moment, and we were at once taken into the heart of the people. We left Indonesia on 18th September in an R.A.F. plane, with Mr. Aishleman, a former Swiss Davis Cup player, head of the International Red Cross in the Far East with us. Before we left, we were invited for dinner in the house of the Prime Minister Dr. Sjarifuddin (who is a Christian) and the dishes served there were mostly Indian. We met the President Dr. Soekerno, for the 3rd time, in breakfast and were with him for 2½ hours. When we left, he bowed to us with folded hands in right Indian style, and said "Jai Hind". We have never met a man more humane, than the President. A public farewell was arranged by the Indonesian Red Cross and a State dinner again in the hotel Merdeka, arranged by the Health Minister, Dr. Lemina (again another Christian) was the last of the public functions attended by us.

A copy of a letter written to us by the Prime Minister of the country on the eve of our departure from Indonesia is reproduced below. The letter speaks volumes for itself and does not need any comment.

"Perdana Mentri"

Jogjakarta, Sept. 14th '47.

To

Dr. P. L. Nirula,
Major S. K. Roy,
Dr. B. C. Sen,
Indian Red Cross Medical Mission, Jogjakarta.

Dear Sirs,

On the eve of your return journey to India, I, on behalf of the Government of the Republic of Indonesia, express herewith our deeply felt gratitude for the valuable support you have given to us by coming to our country. This visit undoubtedly has not only given the opportunity to investigate the real facts regarding the medical situation here, but I hope, has also convinced you that our people are really in need of almost every kind of medical aid and supply.

Will you be so kind as to convey our sincere thanks to your Government and the Indian Red Cross Society which arranged your visit and gave the spiritual and material help for relieving the misery and suffering of our people.

I sincerely hope that this visit will not be the last one and that due to your humanitarian work the already existing co-operation between your and our country may get closer.

Yours sincerely,
Sd.|- Amir Sjarifuddin,
Prime Minister of the Republic of Indonesia."

We left Indonesia with heavy hearts. In the aerodrome many friends and officials came to see us off.

Return Journey

On our way we had to stop at Batavia. After an hour's halt, we took off for Singapore, where we reached in the afternoon, Mr. John Thivy, Indian representative at Singapore and Mr. Sethi helped us during our stay here. We were invited to lunch, by Mr. Jummabhai, M.L.A., of Singapore and a businessman, an aggressive nationalist moslem, on the 20th Sept. The previous day Mr. Motiwalla, another Bombay moslem merchant, took us to the island of Johore, which is really worth seeing. On the 21st Sept. we left Singapore in a B.O.A.C. plane. Dr. Ottway and Dr. Hasan came to the Air-port to see us off. We stopped at Rangoon for the night, where one Mr. John, a Moslem League follower, a Madrasi moslem businessman at Rangoon, who travelled with us from Singapore, took us round the devastated city of Rangoon, We saw the Swedagon Pagoda, and also the place where the remains of the assasinated Burmese leaders lie in state. On the 22nd morning we left Rangoon, and landed in the Hooghly river in the Bally-air port, exactly a month after we left India. This has been a month of happy and glorious experience indeed, and long shall I remember the life of 3 weeks which I spent in Indonesia.

NOTES AND NEWS

LEPROSY WORKERS' CONFERENCE, WARDHA

The following is the address delivered by Dr. Jivraj N. Mehta as President of the Conference held at Wardha on 30-10-47:—

Syt. Thakkar Bapa and friends,

I consider it a great privilege to have the opportunity of being associated with this Conference of Leprosy Workers from all parts of India and of being able to take part in its deliberations. It was extreme pressure of work in Delhi in connection with the refugee problem that made me first unwilling to accept the invitation to be present here today and even suggest a postponement of the Conference. This suggestion was put forward much against my will because, as many of you are aware, this Conference has been convened as a result of the decision taken at the

meeting of the Advisory Medical Board of the Kasturba Gandhi National Memorial Trust held in March last at Bombay, when I whole-heartedly supported the idea of convening it. You can, therefore, well realize that the suggestion for postponement was actuated only by the desire to ensure that the success of the Conference was not jeopardized by the conditions existing in the Punjab and Delhi, which had cast a gloom all over the country for some time and which required concentrated efforts to grapple with the problems arising out of the great upheaval that was taking place there and the terrible distress from which our fellow citizens in those areas suffered at the time and are still suffering.

I am glad that we have, however, turned the corner and the conditions in East Punjab are on the whole easier today than they were three to four weeks ago, thus enabling me to participate in the work of the Conference and to contribute my share, however small, to the discussion of the leprosy problem in India and the evolution of a national anti-leprosy policy based on an adequate recognition of the varied social and economic factors associated with the incidence of the disease and on the utilization of all available knowledge regarding its aetiology and modes of spread.

I have long been interested in the leprosy problem though I must confess that I have not, so far, had opportunities of taking an active part in anti-leprosy work. As a member of the Scientific Advisory Board of the Indian Research Fund Association and of its Governing Body for many years, I have been interested in the problems of leprosy research which have engaged the attention of a special Advisory Committee of that Association. Further, as a medical social worker, I have naturally had contacts with many of the leaders in the field of leprosy relief—medical and non-medical—who are present here today and it is a matter not only of great satisfaction to me but also of privilege that, by your asking me to preside over this Conference, you have enabled me to associate myself with these colleagues in a work of such great importance to the welfare of the country. Lastly, the duties and responsibilities which I have recently accepted in the Ministry of Health at the Centre have necessarily deepened my interest in leprosy, the control of which presents so many difficulties of a medical, economic and social nature that I welcome this opportunity of participation in the concentrated effort by workers from all parts of India to view this problem in its varied aspects.

EXTENT OF PROBLEM

In addressing a body of expert workers in the cause of leprosy relief—medical as well as non-medical—it may seem preposterous for me to draw attention to the nature and extent of the leprosy problem in India, but I deliberately do so because I realize that the eyes of a much wider circle of interested people among the general public are fixed on this Conference and on the results that may crystallize from the discussions that will take place here. Our appeal should, therefore, be to that large body of men and women who, if they take an active part in promoting a desire on the part of the public and of the authorities to tackle this disease, will be contributing no small share to the development of an effective anti-leprosy campaign in the country. It is essential that the public should know the facts and should be able to view the problem in its proper perspective.

Some idea of the extent and nature of the incidence of leprosy may be obtained from the fact that, of an estimated total of about five million patients of leprosy in the world, approximately one million are in India. Of these, some 250,000 are considered to be infectious. The distribution of the disease over the country is quite uneven, the highly endemic areas being certain parts of West Bengal, Bihar, Orissa and Madras, while a belt of moderate incidence lies along the Himalayan foothills across Northern India. Central India also contains many foci of moderate incidence. In heavily infected areas, the percentage of population affected may range from 2 to 5 per cent while in individual villages the proportion may be as high as 10 to 15 per cent. The proportions of the benign neutral type and of the malignant or lepromatous type in individual places vary considerably. It is stated that, while for the country as a whole the more serious or lepromatous form of the disease forms approximately 20 per cent of the total number of patients, the range of variability of this type in individual places may be from 4 to 50 per cent.

ORGANIZATION OF EFFECTIVE ANTI-LEPROSY PROGRAMME

When we turn from this picture of the incidence of leprisy in India to the question of organization of an effective campaign against the disease, we begin to realize the extreme complexity of the problem. In regard to the common infectious diseases, as well as tuberculosis and venereal diseases, the mode of transmission of infection is known in each case and it is, therefore, possible to develop a plan of action to block the channels of spread. The incubation period is also known in respect of most of these diseases and it, therefore, becomes easy to isolate contacts for the required periods and to ensure that these potential sources of danger to the community are neutralized as far as possible. Except in very few cases, a patient becomes non-infective on recovery from the disease while for a number of such diseases, chemotherapy or other forms of treatment afford a speedy and effective cure. Further, methods exist, in regard to a number of these infections, for the active immunization of those who are exposed to them through appropriate forms of vaccination. In regard to leprosy we find, on the other hand, that the conditions outlined above for facilitating control hardly exist. The actual mode of spread is not known, the incubation period is uncertain, no method of prophylaxis is available and the treatment, while it does play an important part in alleviating suffering, reducing incapacitation and promoting cure in a percentage of cases, does not play the same effective role by producing a radical cure as in the case of the other diseases to which reference has been made. Indeed, in many leprosy patients, periods of improvement may supervene even without any form of treatment.

It is, therefore, clear that the problem of leprosy control is more complicated than that of many other infectious diseases; nevertheless certain facts are known which give guidance regarding the organization of an anti-leprosy campaign. Fortunately, the disease is much slower in its spread from person to person; relatively longer periods of contact and closer association are necessary for the transference of infection and adults are much less susceptible to leprosy than children. From time immemorial it has been recognized that the most effective method of checking the spread of the disease is through isolation. But in the application of the principle of isolation what practical, economic and social difficulties exist is well known to you all. The necessity for the segregation of large numbers of infective patients in the highly endemic areas for enforcing such isolation over prolonged periods are complicating factors of great importance from the point of view of administrative and financial considerations. These considerations are, indeed, of great importance but I feel that the greatest handicap we have today is lack of basic knowledge regarding leprosy, which makes it difficult for us to formulate lines of action based on scientific facts.

FURTHER POINTS FOR CONSIDERATION

Are all infectious cases to be treated alike? How far can a differentiation be made between such cases in regard to travel, participation in public affairs or even life in a common home, taking into consideration such factors as the low infectivity of the disease, the prolonged and relatively close contact necessary for its transmission and the high degree of insusceptibility of adults? For instance, how far are the restrictions which the law imposes on patients of leprosy in respect of railway travel and of the use of other forms of public transport justified or necessary from the point of view of public safety? Would it be safe to permit certain types of infectious cases to live in the same house with healthy persons, provided children are excluded and certain degree of isolation in the house is aranged for? Are there recognizable differences in the degree of infectivity of individual infectious patients and can administrative action in respect of control be justifiably based on such differences in the light of existing knowledge?

Such questions can easily be multiplied and I feel that the experts present here can, if they are able to throw light on such questions, help a practical anti-leprosy policy in the country. The conference has before it a long and varied agenda and the discussions in respect of particular items such as "Problems connected with isolation of infective cases" and the organization of leprosy relief and control in rural and urban areas, will no doubt provide many opportunities for the consideration of the questions to which I have referred. It is, therefore, to be hoped that, out of these deliberations, there will emerge some practical suggestions for making anti-leprosy work more effective.

I should also like to refer to the problem of rural leprosy. The disease is much more common in the rural areas than in urban centres and suitable methods of isolation, if they are to be developed, should provide for cheap and, at the same time, effective means of preventing the spread of infection. We all know that, in Madras, certain experiments are in progress under the guidance of Dr. Cochrane and that other provinces too, *e.g.*, Orissa, have made trials in the development of village colonies for isolation. A pooling of the experiences of leprosy workers from different parts of the country in this particular aspect of the leprosy problem is, therefore, bound to be of value for future anti-leprosy work. Moreover, economic problems connected with leprosy can be solved only by educating the public into taking a more reasonable attitude towards the disease. What is essential is to make the public realize that a person suffering from leprosy is not doomed, but is one capable of being reconditioned into life even though 'scared' by the disease.

I have already referred to the wide and varied nature of the subjects for discussion at the Conference. The agenda contains 20 subjects and includes, among others, the clinical aspects of leprosy, the treatment of the disease, the organization of anti-leprosy work in rural and urban areas, the training of various types of leprosy workers, the problem of child leprosy, the question of isolation of infected cases, legislation and the consideration of social and economic factors in relation to the disease. I may also mention that two important aspects of the leprosy problem do not appear to have been included in the agenda. These are: (1) the extent to which the problem of beggars affects the incidence of leprosy, and (2) the part which industrialization is playing in the dissemination of the disease. All leprosy workers have recognized the importance of these two aspects of the leprosy problem in India and it is for consideration whether the Conference should not include these two subjects as well in its agenda.

LEPROSY AS A RURAL PROBLEM

Leprosy is largely a rural problem and the workers (particularly non-medical) whom we train should largely be drawn from the rural population. They will then have the necessary background of knowledge and experience of village life and conditions to enable them to fit into the rural environment and to assist in the development of anti-leprosy work on sound lines. It is also essential that in the programme of training workers, emphasis should be laid on social service, so that men and workers who are trained will be motivated by a desire to give their best to the career on which they enter.

And this brings me to another aspect of the problem which our friend, Prof. Jagadisan, has emphasized in a recent contribution of his to the *World Dominion and the World To-day* under the title "Balance in Leprosy Work." As he has pointed out, the emphasis in leprosy work in the past has been on the needs of the individual patients and has been largely influenced by the missionary spirit "inspired by compassion for the needy." The newer approach, he fears, might prove to be less humane because it might concentrate on the public health aspect of the leprosy problem, lose sight of the patient in the concern for the community and thus become bereft of the missionary spirit with its emphasis on the needs

of the individual. He, therefore, pleads for a balance between the two points of view. He points out that such a synthesis "arrives at the right balance between cure and prevention, between relief and control. It recognizes the variety of problems connected with a disease of protean manifestations and one complicated by social and economic factors. It recognizes that the sanatorium, the infirmary, the children's institution, the rural prevention unit with its night segregation centres, the rural colonies with an agricultural and industrial bias—have all their proper places in the control and relief of leprosy. Yet it does not only think of a patient in respect with an institution; for, while it recognizes the great need of increasing institutional accommodation considering the present helplessness of the patients, it insists also on so educating people and so improving social and economic conditions that the vast majority of leprosy patients can remain in the homes and villages of India." In my opinion, there need be little hesitation in accepting Prof. Jagadisan's view because it puts forward a sound plan for the development of anti-leprosy work in this country. An essential factor for such development is the provision of trained workers imbued with the spirit of service and hence it is that I plead for special emphasis on this aspect during the training of all types of leprosy workers.

B.E.L.R.A.

At this stage, I do not think it necessary to comment upon the other items of the agenda except to say that, in regard to item 20—the reorganization of the British Empire Leprosy Relief Association (Indian Council)—a suggestion has been put forward that, in view of the constitutional changes which have recently taken place, it seems desirable to change the title of the Association into one which identifies it more fully with India. I am sure that there will be general agreement with this suggestion. To this organization I would like to convey our warm thanks for the work so far done during the course of the last 22 years of its existence, during the course of which it has done much useful work generally, and particularly by starting a research unit at the School of Tropical Medicine, Calcutta, and forming an all-India survey party. It had also convened the first Indian Leprosy Conference in 1933, which recommended the formation of provincial and district leprosy boards and the appointment of Provincial and District Leprosy Officers in high endemic areas of India, arranged for the much improved facilities for training of medical workers in leprosy, provided for the treatment of leprosy in hospitals and dispensaries as also assisted in the development of in-patient institutions and the establishment of colonies for patients suffering from leprosy. But the work so begun has again lacked in continuity of effort. A great impetus is, therefore, needed for a speedy advance all along the line in the fight against leprosy in the country. It must, however, be realized that a mere change in the title of the Association will not work wonders. The conscience of the general public for this noble work has to be aroused and a band of workers created, whether honorary or paid. I should also like to take this opportunity of offering our tribute to those Christian missionaries, mostly non-Indian, particularly the Mission for Lepers, who have devoted their life and energy to the cause of persons suffering from leprosy in India and who have for years waged war against this scourge in the country and have played their part in rousing the national consciousness for a campaign for its eradication and for the sympathetic treatment of the sufferers from this disease.

THE INDIAN EX-MILITARY MEDICAL OFFICERS ASSOCIATION

The Indian Ex-Military Medical Officers Association at a meeting held in Calcutta on 14-10-47 adopted, upon certain precise arguments, a number of resolutions, stressed on the post-release rehabilitation, urging the Government with request—(1) To allot a reasonable percentage (*e.g.* Madras etc.) of all civil medical appointments, kept temporary since 1939 with relaxation of the age-bar to the Ex-Military Medical Officers, and to appoint a compulsory ex-service medical representative of the 2nd World War in all medical selection boards; (2) to cancel all selections for local government and semi-government appointments since 1945 and to advertise the same to allow them an opportunity of being selected; (3) on grounds in No. 4 and 5 below, to hold a fresh selection of the "prospective Regular" IAMC officers upon the provincial numerical percentage of the war time Medical officers, enabling every qualified officer (emergency) released or otherwise, to get a chance with relaxation of the age-bar and to advertise the vacancies of Military Hospital specialists before selection; (4) to enquire whether the compulsory release of the age and service groups 1 to 47 IMS/IAMC officers save the IMD-warrant officers made (Emergency) Commissioned Officers in the 2nd World War, and contrary to the official decision the latter had neither reverted to their original ranks nor retired with pension or gratuity by 31st May 1947 to the injustice to the released officers and Indian rate-payers, and that about 20 per cent of the prospective regular IAMC officer's vacancies had been allotted to those latters, were facts; (5) to enquire whether a number of (Group 1 to 47) IMS/IAMC officers, excluding the IMD-ECOs and some IAMC officers long overdue for release were being still retained whereas the rest of these groups had been compulsorily released, were facts; (6) that the admission of the Ex-IAMC officer students in the Lake Medical College be guided by the numerical strength of such officers from different provinces.

COLLEGE OF PHYSICIANS AND SURGEONS OF BOMABY

The following candidates have passed the D.G.O. Examination held in October, 1947:

Adatia, Manilal Devchandbhai; Doshi, Nalini Yeshwant (Mrs.); Mastakar, Malini Nanuji (Miss); Sethi, Bimla (Miss) and Solomon, Abigail Moses (Miss).

The following candidates have passed the D.C.H. Examination held in October, 1947:

Bajaj, Teckchand Manghanmal and Maker, Saraswati Eileen (Mrs.).

RAISE BABY BY MAIL—IN AUSTRALIA

Boyd Davies writes: In addition to correspondence schools conducted by State Departments of Education to give education to "outback" children, Australia has pioneered the mails as a means of bringing scientific care and health to many isolated children in their first crucial years.

By this correspondence system, many Australian mothers, miles from the nearest doctor, are successfully rearing their babies. The scheme applies mainly to South Australia, and this is one of the reasons given for the State's low infant mortality rate.

For the year ended December 1946, only 27·07 babies in every 1,000 born there did not live to one year. This was not only the lowest infant death rate of anywhere in the Commonwealth of Australia (except the sparsely settled Northern Territory), but was lower than that of any sovereign State in the world. The 1944 figure for the State was 29·07.

1,700 "Subscribers"—Behind the novel "Mail Baby project is the mothers' and babies' Health Association of South Australia, which now supplies regular written lectures to mothers in the State and to isolated areas throughout Australia's 3,000,000 square miles.

Mothers in Western Australia, Darwin, New Guinea and on solitary lighthouses are among the 1,700 who are bringing up "Mail" babies.

For these isolated women, help takes the form of "lectures", including instructions on the correct diet and exercise for monther and baby, general health problems, childhood ailments, and hints on suitable baby clothing. These hints, doctors say, have helped many a baby safely through the first and second years.

Sister Nora Godlee, who is in charge of the correspondence section of the Mothers' and Babies' Health Association, studies the case of each child individually, and applies her intimate knowledge of early childhood problems.

Service by Train—If mothers live in small country towns, trained sisters of the M.B.H.A. offer advice personally, and watch the health of growing babies during regular periodical visits.

Country towns over a wide area of South Australia have their own clinics and there are 161 in all, but to assist even the most isolated mother the M.B.H.A. runs two special trains, staffed by double- and triple-certificated sisters. The schedule of these trains is advertised in all country newspaper and broadcast over all metropolitan and provincial radio stations. The trains, drawn free by the South Australian Railways, are sidetracked at selected spots for several days—until all mothers within a radius of 50 miles have had an opportunity of receiving the free advice offered by the train staff.

Pre-Natal Care—The work of this Government-subsidised organisation does not lie solely in post-natal care, but also caters for the expectant mothers.

Whenever possible the mother-to-be receives highly specialised pre-natal care at any of the dozens of hospitals in South Australia or from her own family doctor.

A specialist at South Australia's largest maternity hospital (the Queen Victoria) said recently that although South Australia's infant mortality rate stood at 180 in the thousand in 1875, little was done about scientifically reducing the loss until 1920.

At the end of the last century babies were often born in the mother's home, and if facilities were lacking or birth was difficult, the lives of both mother and infant were endangered. Sometimes in poorer areas babies are still born in the home, with the doctor called in at the last moment. But in the overwhelming majority of cases doctors study each expectant mother months before the baby is due, and order a hospital confinement.

In the normal course of events, the expectant mother reports to the hospital five months before the baby is due and receives instructions about correct diet and general hygiene.

Any abnormalities are determined by x-rays, and doctors examine the woman to see if she has tuberculosis, a heart disease or anything which could be passed on to the baby.

If what the doctors call the incompatible R.H. factor—a blood condition—is present, deaths are reduced by a blood transfusion given to the baby immediately after its birth.

Although safe painless birth for all is still far off in Australia as elsewhere, the latest sedatives are used and play their part in reducing shock and worry to the mother and giving baby a better chance of a normal birth.

Glassed-in nurseries minimise the risk of infection after birth, and babies are handled as little as psosible.

Washing Reduced—It was recently found that the risk of infection to newly born babies was cut by giving them fewer baths, and in many Australian hospitals doctors avoid the risk of infecting the youngsters by ordering only two baths—one immediately after birth and the other just before the mother leaves hospital to take her baby home. Babies are cleaned with frequent oil spongings.

Doctors point out that premature births will probably always lead to some deaths among babies, and that no country is likely ever to have an infant death rate of nil. But this is no discouragement to the struggle by Australians to get "as near to nil as possible."—*Australian Medical News Letter.*

MEDICAL SERVICES IN DENMARK

Dr. Gerald Evan (Supplement, *Brit. M.J.*, p. 119) records an Englishman's impressions gained during a recent visit to Copenhagen. He will be followed in later issues by Danish physicians describing the conditions of general practice, the hospital system, the public health service, educational facilities, and the State Serum Institute—this last an organization whose fame as a scientific institution, a central epidemiological research laboratory, a diagnostic service, and a factory for the production of sera and vaccines has gone far beyond the confines of Denmark.

The Scandinavian countries have much to teach the rest of the world in the various fields of social welfare. They are in advance of most other European countries in education, sex equality, co-operative enterprise, infant and maternal welfare, public health, and social progress generally. They are of course small countries in education, sex equality, co-operative enteramong vast populations with a varied industrial pattern. The population of Denmark is less than that of the country of London, and, apart from Copenhagen, only one town has many more than 50,000 inhabitants. Among a well-organized people, roughly half-rural and half-urban, the conditions seem to be almost ideal for social advance. Moreover it is important to remember that the Danes are a well-educated people. The fact that education is a necessary basis for national health measures is not always appreciated. Denmark, which had compulsory education, at least on paper, two hundred years ago, is in the vanguard of Scandinavian countries in the development of adult education. Its residential high schools for people up to 25 receive State subsidies but have perfect freedom and an undictated curricula, and they are not predominantly vocational. By these and other means, including progressive and co-operative movements, the Danes have acquired a strong community sense, have learned the advantage of working together, and have come to understand what co-operation requires of the individual. If our own National Health Service is to be a success the people must understand it, its need and value, its means and aims. Without such an understanding regulations and disciplines will count for little—something to be evaded rather than the leading strings to a healthier society. It is no less true for its patients than for its doctors that a National Health Service must be accepted rather than imposed, and we may regret that our Government, so energetic in legislation, while it has prepared a Service for the people, has devoted little attention to preparing the people for the Service. Many still believe that the service is a system of "free doctoring" and free everything else to do with health. They should be told that its success will depend largely on their own understanding and proper use of it, and also that it is not "free" but that the whole community is footing the bill.

The National Health Service in Denmark is a very different organization from the new British Scheme. It was founded in 1909 and reorganized and adapted to the latest public health developments in 1932. Its functions are advisory, supervisory, and administrative. In one respect it resembles the General Medical Council, for it authorizes both general practitioners and specialists to practise their profession, but it also advises local public health authorities and the public generally in all medical matters, and supervises public health, nursing, and hospitals. The provision of hospitals for the people as a social task was laid down by ordinance as long ago as 1806. The onus of providing such hospitals was laid not on the State but on local authorities. The result is that Denmark now has a uniform and efficient hospital system, with hospital treatment available to any person who needs it, irrespective of means or social position. Nine out of ten hospitals belong to the country or city communes, and these municipal or country hospitals, as we should call them, have gained the regard of the people in the same way as the voluntary hospitals of this country. Perhaps it is because the municipal hospital is a recent growth in Great Britain, and some recollection of the old Poor Law Infirmary still remains, that these hospitals, in spite of the excellence of many of them, have not yet evoked the same pride and affection, for the feeling of a community towards its hospital may not depend on the mode of financial provision for its maintenance. It is, or it should be, the people's own hospital, whether it is supported by the rates or by their voluntary contributions.

The medical profession of Denmark remains a free profession. The doctors have not been turned into Civil Servants; they have not even adopted a system of group practices or health centres, though Dr. Evans describes the arrangement whereby people unfortunate enough to be taken ill after 8 p.m. may have a strange doctor to attend them. The only respect in which the Health Service seems to act compulsively towards doctors is in requiring them to send any notifications or reports which it considers necessary. The Danes have endeavoured to maintain the family doctor principle—that is, each family has its regular doctor, one who knows not only the constitution and history of each individual in the family but his domestic and economic background. That principle is imperilled not so much by legislation as by the increasing specialization of medicine. In Denmark the sickness benefit club service, which for over half a century has been providing free medical care by practitioners, was planned from the start as a family system, including children under 15, and was not restricted to wage earners. It is to the general practitioner that the first application for medical attendance is made, and through him the specialist is consulted and admission to hospital arranged. There is organized collaboration between general practitioners and hospitals, specialists, and laboratories. It is said that the system is working well and there is no disposition to change it. In the hospitals—more so outside Copenhagen that within it discussions and conferences take place between the hospital staff and local practitioners, and the latter receive reports on their discharged cases.

The Danes have succeeded in maintaining a system of individual medical practice, free from political pressure and interference by lay authority. The family doctor system is being carried out more consistently in Denmark than in any other country, although specialist medicine is of a high order. The family doctor system may not satisfy the departmental mind, may not be liked by those who tend to think of human beings in terms of statistics or of mere numbers, but it does represent the most human approach and the most effective approach in medical practice.—*Brit. M.J.*, **1**:856, 1947.

SOVIET RUSSIA AND ABORTION

Normen Haire writes: The volteface of Soviet Russia, in the Middle 30's, towards the questions of contraception and abortion, has long puzzled socio-

logists in other countries. At last, some light has been thrown on the matter by a French writer, Jean Marestan, in the April number of La Grande Reforme.

He points out that the population problem has never been acute in Russia, as it has been, and still is, in many countries of Western Europe, including Gt. Britain. Russia is the largest country in the world, forty times as great in extent as France. In 1913, just before the First World War, Russia's population was 134,000,000, but this meant only 26 persons to the square kilometer, compared with Germany's 120, Italy's 121, and France's 76. Its birth-rate was very high, 46 per thousand, but its infantile death-rate was also very high, so that the survival rate, and consequently the rapidity of increase of population, were much lower than might have been expected from the birth-rate figures alone.

In 1913, Lenin wrote: "We are sworn enemies of Neo-malthusianism, which is an ideology for petits bourgeois, who stammer in terror: 'as long as we get enough to eat ourselves, children are not necessary.'"

The legalization of abortion, at the request of the expectant mother, in state hospitals, and the teaching of contraception in the schools for mothers, were not the result of a change of opinion in the heads of the Soviet State. They were temporary measures, adopted to combat the ill-effect of clandestine abortion, which was extremely common, and which took a heavy toll of both the health and the lives of women, during the years of want which resulted from civil war, foreign invasion and the economic block after the Revolution.

In July 1935, when Marestan was in Moscow, he reports that there were no less than forty abortion clinics. He himself was permitted to visit and investigate the Clinic of Doctor Bogdassarow, which dealt with an average of 30 women a day.

If the applicant was suffering from severe fatigue or ill-health, the operation was agreed to without difficulty, and carried out, free of charge, under the best surgical conditions. If it was considered to be unnecessary on health grounds, and only desired for reasons of personal convenience, efforts were made to persuade the woman to carry on with the pregnancy. It was pointed out that her attitude was ethically wrong, and she was reminded of the help given by the State to all mothers and babies, irrespective of whether the woman was married or not. If she insisted on being aborted, the operation was carried out, at a cost to her of 50 roubles, in order to avoid the danger which would arise if she should attempt to procure an abortion herself, or if she should have recourse to a non-skilled abortionist. It is sometimes said that Russia repealed the legalization of abortion in hospitals because of the disastrous results of such operations even when carried out by expert surgeons under the best surgical conditions. But that is not so. The statistics, complied by the Soviet authorities themselves, and dealing with tens of thousands of cases, showed beyond doubt that when the operation was carried out in a hospital, complications were very rare, and when they did occur were due to pathological conditions existing before the operation, and that they did not average more than one in ten thousand cases.

The real truth is that just at the time when Marestan was in Soviet Russia, there arose a public protest against the abortion clinics because of the high costs which had to be paid by the candidates for abortion, except where the operation was done free of charge on health grounds; and because it was considered that the spread of birth-control knowledge and the improvement in living conditions, had removed the necessity for abortions, except in cases of maternal ill-health.

Incidentally, it had been noticed that, when the operation was carried out scientifically, far from causing sterility as a result of infection, it actually favoured the occurrence of further pregnancies, and that it was very often the same women who returned to the abortion clinics because they preferred a series of abortions to the trouble involved in taking contraceptive precautions.

Marestan himself visited the model institutions which the Soviet State had founded for the protection of mother and child and he thought that they were good, but he did not approve of the enthusiastic propaganda for beating all records in the rapidity or population increase, which was going on at that time. He feels that this cannot be done without sacrificing quality to quantity, and without damaging the intellectual powers of the parents, burdened as they are, in spite of state aid, by the cares and responsibilities of too many children. For study, one needs quiet, and tranquillity of mind. And these one cannot have if there are too many children.

In addition to entirely free medical attention, and State subsidies to mothers, by decrees of 27th June, 1936 and of 8th July, 1944, decorations have been instituted for parents of large families. The *Motherhood Medal* is awarded to the mothers of 5 or 6 living children. If a woman has seven, eight or nine children living, she is given the Order of "Mother's Glory." If she has ten or more living children, she is decorated with the Order of the "Heroine Mother." In two years, between 1944 and 1946, more than 750,000 Soviet women have received either the first or second of these decorations, and 5,838 have received the third.

As a result of the measures taken by Soviet Russia, its population is now increasing by 11 per thousand every year, and, in spite of the loss of life in the two World Wars, Russia's population, within the near future, will be in the neighbourhood of 200,000,000.

Before 1939, a Russian intellectual remarked to Marestan that it was the inevitable fate of nations in a condition of proletarian revolt, to be attacked by the forces of capitalist reaction, both at home and abroad. He was of the opinion that, in order to defend the Socialist State, the battle would be hard, and Russia would not be able to depend on any outside help. If, he said, Russia had 300,000,000, well armed and disciplined men, she would be invincible. Marestan himself thinks that this view, though perhaps justified before 1939, cannot so easily be sustained today, when the improvement in the means of destruction has greatly

decreased in importance the number of combatants in war.

Marestan concludes by saying that if the present trend continues, and unless a new war breaks out in the meantime, the figure of 300,000,000 will be reached within a measurable time. What, he asks, will then become of the Lenin-Marx philosophy in the presence of inescapable difficulties, within the State itself, arising, this time, not from Capitalism, but from agricultural production and Lebensraum.—*Marriage Hygiene*, **1**:10, 1947.

INDIAN MEDICAL ASSOCIATION—BENEVOLENT FUND

The Central Headquarters of the Indian Medical Association has issued an appeal dated October 20, 1947 for the contribution to the Benevolent Fund of the Association. The signatories to the appeal are distinguished members of the I.M.A. from all over India. The appeal runs:

Dear Doctor, you are well aware of the unspeakable misery and absolute helplessness of millions of evacuees from West Punjab and East Bengal. Amongst them belong quite a formidable number of the members of the profession. These members of the profession have been forced by circumstances beyond their control to leave their hearths and homes, lucrative and well-established practice and are now refugees without any permanent shelter or promise of any livelihood in the near future. It is the greatest tragedy that can befall humanity as will be evident from the reports received from our suffering brothers in profession. The element of sobriety and humanity has been completely thrown off the gear and an abnormal situation is now prevailing.

We, in the Indian Dominion, following our avocations peacefully, may not realise the tragic nature of the situation and the terrible catastrophe that has befallen these doctor refugees. Imagine within your mind, doctor, for a minute that, for no fault of yours, you are asked to move out from your dear home once for all, give up the practice of your profession, and, with a completely blank future before you and with no prospect of even having a roof over your head, you are asked to proceed to an unknown destination; and thus, bereft of the means of earning your livelihood, relieved of your worldly possessions, with hunger-stricken and famished members of your family by your side, you are moving to an unknown land amidst strangers, not knowing what is in store for you and how long it will take you to settle down and find food and shelter for the members of your uprooted family!

This, however, represents what has actually overtaken many of our brothers and sisters in the Punjab, Sind, N.W.F. Provinces and East Bengal. It is now for us to decide what we should do to ameliorate their sufferings, even partially. Can we not do anything in this grave hour of national crisis? That is the question which we should all address to ourselves and try to find a quick answer. Should it not be "Yes, certainly, we should do all we can"?

We should realise that we are faced with a gigantic task of helping to rehabilitate and resettle the displaced members of the profession in an organised manner. If every one of us puts his/her shoulders ungrudgingly to the wheel, the task would not be difficult of accomplishment. The Indian Medical Association has a great responsibility to discharge in this hour of national peril and its immediate task should be to render every assistance to the evacuee members of the profession in finding suitable employment or new fields where they could settle down and earn a living by the practice of the profession.

The Working Committee of the Association, at its last meeting held at Patna on 9-10-1947, discussed this matter in great detail and came to the conclusion that an appeal should be issued forthwith to the members of the profession requesting them to contribute at least Rs. 10/-, per head, or more, according to one's ability, at once to enable the Indian Medical Association to open the "Indian Medical Association —Benevolent Fund" with a view to help the displaced members of the profession and resettle and rehabilitate as many amongst them as possible. Will you not stand up to the occasion and contribute your very best —not necessarily the scheduled Rs. 10/- but definitely a bigger amount? We need not say anything more but depend on your sense of responsibility, your charitable instincts and your sense of duty to our suffering brothers and sisters of the profession at this extremely critical hour of their unspeakable misery and distress.

All contributions may please be addressed to:— The Acting General Secretary, Indian Medical Association, 23, Old Hindusthan Buildings, Calcutta—13.

Cheques should be crossed and made payable to the "Indian Medical Association—Benevolent Fund". Yours sincerely, P. B. Mukerji, R. A. Amesur, Jivraj N. Mehta, S. N. Kaul, K. S. Ray, Bhupal Singh, B. C. Roy, M. G. Naidu, U. Rama Rao, G. DaSilva, M. V. Krishna Rao, B. N. Ghosh, N. A. Purandare, A. N. Sarkar, S. N. Mitter, J. P. Modi, G. S. Melkote, N. L. Ranade, B. D. Sindhwani, A. N. Chopra, Amirchand, T. S. Tirumurti, H. Hukku, S. C. Mehta, B. N. Prosad, R. C. Sen, S. C. Sen, P. K. Guha, Shridhar V. Oak, A. P. Mittra, Chamanlal M. Mehta, R. C. Goulatia, Faquir Chand Shori, B. V. Mullay, G. V. Joshi, S. K. Choudhury, H. N. Shivapuri, M. V. Natesan, S. Samaddar, P. N. Sinha, P. Gurumurti, T. J. Lalvani, K. K. Sen Gupta, Banbehari Banerjea, A. K. Sen, Amalananda Das, P. R. Trivedi, Prem Lal.

ALL-INDIA OBSTETRIC & GYNAECOLOGICAL CONGRESS

The Fifth All-India Obstetric & Gynaecological Congress will be held in Bombay from 25th to 29th December 1947 under the presidentship of Dr. Sir A. Lakshmanaswami Mudaliar.

The chief subjects for discussion as already notified willl be: (1) Dystocia, (2) Sterility and (3) Neo-natal deaths, besides other scientific papers, demonstrations, and exhibition.

CORRESPONDENCE

ENHANCEMENT OF THE ANNUAL SUBSCRIPTION OF THE POONA BRANCH, I.M.A.

The Editor is not responsible for any views expressed by contributors.—EDITOR.

Sir,—The decision to enhance the annual subscription from Rs. 18/- to Rs. 24/- per year, passed in the general meeting of the Poona Branch of the Indian Medical Association, was a harmful decision. It is harmful from many angles and mostly unfortunate from the broader point of view of the solidarity and the strength of the Association, the main purpose of which is to enlist all medical men who have registrable qualifications under one organisational structure. This is certainly a laudable object and it is the duty of every medical man to associate himself with the other members of his profession and exchange his experiences with the members of his kin. There are such associations of every profession in every country and it is germain to our national status to build up a country-wide uniform association. To bring unformity in the rights and privileges of the members of the association it is always observed that the membership is kept uniform for all its branches and every member is allowed to enjoy minimum rights prescribed under the constitution. Minimum rights and minimum responsibilities are generally fixed by the mother association and the local branches are not allowed to interfere with or encroach upon the primary rights of the members. In the British Medical Association or the American Medical Association local or primary branches are given the right of raising additional voluntary subscriptions from the members of the branches but under no circumstances the minimum membership fee is allowed to be increased by those branches who are parts of the mother Association. If increase in the innate annual subscription is allowed to the branches it will be a virtual encroachment upon the rights of members of the minority who are opposed to this change but who wish to remain as members of the mother Association. This is certainly bound to affect the numerical strength of the Association. For only the fortunate few who have the means to pay the larger amount of subscription can remain the members, asking others who are not so fortunate to quit the association. The decision of the Poona Branch has created this unfortunate position. I wish the Central Council of the Indian Medical Association will give serious consideration to this state of affairs in its peripheral branches affecting very gravely the fundamental purpose for which the Indian Medical Association stands and devise ways and means to stop this process of self-liquidation. I am etc.

DR. R. B. KARNIC.

538 Narayan
Poona 2.

A PECULIAR HEADACHE CASE

Sir,—As I was going through the June issue of the Journal of the I.M.A. (p. 333), I noticed the article written by Mr. Ram Singh of Jaipur about his wife's headache.

As I have been a sufferer from most awful headache almost similar to hers I am writing this to you with a request to convey my prescription to her, so that she may be helped. As none of the ordinary treatment helped me, I made a study of the recent discoveries on sex hormones and I began to use Oxocyclin and Lutocyclin (Ciba's).

Ovocyclin, either tablets or injections beginning a day or two prior to the onset of the headache for about 10 days and then after a week lutocylin 5 mgm. injections weekly twice for the last 2 weeks before the next period of menstruation. Ciba's cibalgin can be used as a sedative if headache is unbearable. Mrs. Ram Singh must first consult a doctor who can correct the retroversion of her uterus and then begin this treatment.

I think she has excess output of her anterior pituitary hormone. Oestrogen treatment will help her as it inhibits this excess output.

She can also try injections of parandren 5 mgm. or 10 mgm. (Ciba) for getting rid of the headache once or twice a week. I am etc.

ONE IN THE PROFESSION OF MEDICINE.

Govt. Hospital,
Kadiri, Anantapur Dist.,
Madras, 2-10-47.

ADVICE TO DOCTORS

Sir,—I am sending herewith a poem made by me and read on the occasion of Doctor's meeting of our association at Bikaner in the month of June, 1947 for publication in our Journal if you so approve. I am etc.

Ratangarh (Bikaner), R. D. BHARGAVA.
9-9-47.

1. Listen; dear doctors,
   What I have to say;
   Account you to render
   On the doomsday.
2. Kept in service,
   For service sake;
   Ask your conscience,
   If commit mistake.
3. Greet patients
   With mild voice;
   And cheerful mood
   With words of choice.
4. Think as if gods,
   Have come in disguise;
   Attend properly,
   With behaviour nice.
5. Do not hurt feelings,
   Of mankind;
   Less of a patient,
   With perturbed mind.
6. Thereby get blessings
   With slight patience,
   Without which you miss
   Fruit of tolerance.
7. Then only, Oh Doctors!
   Your birth a boon
   People all praise
   A peace-giving moon.

CURRENT MEDICAL LITERATURE

Coagulation Time and Antibiotics

Apart from allergic manifestations there have been few records of any serious reactions resulting from the repeated administration of penicillin. There is, however, considerable evidence to show that both penicillin and streptomycin may produce changes in the coagulation time of the blood. In 1943 Moldavsky, Hasselbrook, and Cateno (*Science,* **102**:38, 1944) found that in patients under treatment with penicillin the clotting time was materially shortened after an injection. These observations have been confirmed by Macht and Ostro (*Ibid,* **103**:402, 1945), who observed also that when injections of penicillin were given to two patients suffering from haemophilia no shortening of the coagulation time resulted.

The specimens of penicillin on which the original observations were made were probably impure. The whole question has therefore been investigated again by Macht. (*Ibid,* **105**:313, 1947). With amorphous penicillin of a dozen or more brands marked acceleration of clotting time was found both in man and in animals. The increase in the time of clotting was usually noted within fifteen to twenty minutes of the injection but was often most pronounced about one hour later; the effect persisted for several hours in every case. The route of administration appeared to make little difference; the reduction in clotting time was noted after intravenous or intramuscular injection and when the penicillin was given by stomach tube. With a highly purified sodium salt, consisting almost entirely of penicillin G, the thromboplastic effect was much less striking. Relatively pure specimens of the four penicillins were then studied. Penicillin X (hydroxybenzyl penicillin) was found to be the most active in reducing the coagulation time; then came K (heptyl penicillin), F (pentyl penicillin), and G (benzyl penicillin). A curious finding was that the addition of a small dose of penicillin X to penicillin G apparently had a synergistic effect, producing an increase in coagulation time far greater than that following a much larger dose of penicillin G alone. Streptomycin, too, has the effect of increasing the coagulation time of the blood in cats and rabbits. In rabbits which had received a number of injections of penicillin the coagulation time of the blood remained shortened for a considerable period, so that fresh experimental animals had to be employed. Both in rabbits and cats the thromboplastic action of penicillin can be overcome by suitable doses of dicumarol.

Since nature has provided generous checks and balances to the higher animals, as well as compensatory and reserve faculties, the danger of thrombosis in clinical practice is probably small. Nevertheless such cases are already being recorded. Frada (*Glor. Med.,* **3**:95, 1947) described in four patients embolic accidents which he attributed—in the light of recent findings probably correctly—to the action of penicillin in increasing the coagulability of the blood. (*Brit. M. J.,* **2**:62, 1947).

Diagnosis of Coronary Thrombosis

Steinocrohn (*Ann. Int. Med.,* **14**:495, 1940) called attention to a new observation said to be helpful in the diagnosis of coronary thrombosis, namely, the rhythm and periodicity of the pain as the most characteristic feature of the syndrome. This periodicity holds true for indefinite attacks as well as for those in which the pain and shock are so prominent that the diagnosis is unquestioned. According to him the pain comes and goes in cycles. Morphine should no be withheld when the patient is first seen in attack, since the pains will continue to recur and remain recognizable before the morphine exerts its full effect. Steincrohn found this pain syndrome invaluable in ruling out the presence of extracardiac anginas such as acute gallbladder disease, ruptured peptic ulcer, acute pancreatitis, intestinal obstruction, acute pneumothorax and pulmonary embolism or infarct. The cause for the recurring pains is not clear. Theoretically the symptom might be explained on the basis of the changing level of anoxæmia, which is dependent on the adjustments which the cardiac circulation is called on to make in the first few hours following the immediate shock of the attack.—*J.A.M.A.,* **134**:532, 1947.

Effect of Patent Ductus Arteriosus on Body Growth

Porter (*Am. J.M.Sc.,* **213**:177, 1947) says that no factor other than the patent ductus could be found to account for the smallness of each of 3 patients, and when the ductus was successfully closed in 1 he outstripped his twin in height in less than three years. In many patients the growth inhibiting factor is an added reason for surgical ligation of a patent ductus arteriosus. The optimum period for operation is probably before the age of 11 years.

Pathology of Epidemic Hepatitis

Mallory (*J.A.M.A.,* **134**:655, 1947) writes that the pathology of fatal and nonfatal hepatitis has been compared on the basis of a survey of 296 autopsy reports and 160 biopsies from 137 cases of nonfatal disease.

Epidemic hepatitis, in either fatal or nonfatal form, is characterized pathologically by the simultaneous occurrence of inflammatory and degenerative changes in the hepatic parenchyma. In fatal cases the degeneration takes the form of massive autolytic necrosis, which in some areas may be followed by extensive regeneration. In benign cases massive necrosis is seen only exceptionally, whereas acidophilic coagulative necrosis of individual cells is constantly present. Other changes found in the progressive stage of the disease are disorganization of the lobular pattern, focal intralobular collections of inflammatory cells and active regeneration of the liver cells. All these factors are present in the prodromal period of the disease before jaundice becomes apparent, and many of them may persist for weeks after it has disappeared. Evidence has been presented that acute epidemic hepatitis with histologically characteristic involvement of the liver may run its course without the development of clinical jaundice.

Acute Fatal Poisoning following Ingestion of a Solution of D.T.T.

Reingold and Lasky (*Ann. Int. Med.,* **26**:945, 1947) writes that acute fatal poisoning followed the ingestion of a solution of D.T.T. The poisoning is considered to be due to kerosene, the solvent used in the solution.

The essential pathological findings were severe pulmonary hæmorrhages and œdema, gastric hæmorrhages, and the presence of kerosene in the upper gastrointestinal tract.

The wide use of kerosene solutions of D.T.T. as insecticides make them potential dangers in accidental and suicidal poisoning.

Reactions to Penicillin

Nolan and Pedgo (*Ann. Int. Med.*, **25**:725, 1946) report that a patient who had had urticaria during one course of penicillin, developed exfoliative dermatitis when a second course of the drug was given fourteen days after the first had been stopped. They suggest that this reaction was due to some impurity in the penicillin used, since patch tests were positive with the batch of penicillin that had been administered but not with a different brand of the drug.

Spain and Clark (*Ibid.*, p. 732) have observed a patient who developed a generalized eythematous macular rash followed by leucopenia and agranulocytosis during penicillin therapy. There had been other medications (opitates, barbiturates, physostigmine, and vitamins K and C) most of these were continued during the agranulocytosis, and given afterwards without any effect on the white blood cell count. The appearance of the agranulocytosis in association with a skin rash, together with a rise in the white blood cell count soon after penicillin was discontinued, suggests that the agranulocytosis probably was due to penicillin.

The Indication for Irradiation of the Pituitary Gland in Patients with Arterial Hypertension

Pendergass and others—*Am. J. M. Sc.*, **213**:2, 1947 write that 142 adults, 62 males and 80 females, suffering from arterial hypertension, received roentgen therapy of the pituitary gland. Since adequate follow-up was secured on only 93 patients the report is concerned with these patients with a follow-up period from three to fifty-six months, averaging 16 months. The few patients with the short follow-up period of only a few months, were invariably very ill patients whose results following therapy were poor and who could not return for later studies. The treatment was well tolerated by all 142 patients, although 3 persons with papilloedema showed severe acute but transient reactions indicating increased intracranial pressure. About half of the 93 patients showed improvement in blood pressure and clinical condition. All the patients were selected on the basis of a positive test for antidiuretic hormone in the serum. From a consideration of other studies and of the results of varying roentgen dosage, it is concluded that the chance of benefit from radiation therapy to the pituitary in hypertension should be at least 75 per cent if cases are selected according to the following criteria: (1) Positive bioassay for antidiuretic hormone in serum. (2) A roentgen dosage of 1000 R delivered into the hypophysis to be repeated in three months if the test for antidiuretic hormone in serum has not become negative in that time. (3) A negative bioassay for gonadotropic hormone in serum, at the level of 330 m.u. per 100 cc of serum. (4) A normal renal function. (5) Good clearance of injected dye from each kidney as shown by urography.

Streptomycin Toxicity

Parrington and others (*J.A.M.A.*, **134**:679, 1947) write that an investigation of the toxicity of streptomycin was made in a group of tuberculous subjects, who received 3 gm. of highly purified streptomycin sulphate daily for one hundred and twenty days.

It was necessary to interrupt therapy in only 2 patients. In both instances the reactions to the drug were anaphylactic in character, and it was possible to resume treatment eventually in both subjects.

The highly purified streptomycin caused appreciably less irritation at the site of intramuscular injection than did the drug available for general clinical use.

The repeated intrathecal administration of 0·1 gm. of streptomycin was well tolerated. Larger amounts (0·2 to 0375 gm.) were well tolerated in some instances but at times produced untoward reactions of a potentially serious nature.

Except for the so-called histamine reaction, instances of all of the previously described manifestations of toxicity to streptomycin were observed after the use of the highly purified material. In addition, an intermittent or sustained eosinophilia ranging between 5 and 39 per cent was noted in 14 of 16 subjects.

Symptoms of vestibular dysfunction of variable severity appeared uniformly on approximately the twenty-first day of therapy. Complete symptomatic recovery eventually occurred in all subjects. The recovery was presumably a result of the activation of compensatory mechanisms rather than of the restoration of labyrinthine function. It is not possible to establish at this time whether the neuroiogic reaction observed in this study was less severe than the reactions which have occurred after the use of impure material.

Deafness developed in 2 of the 16 subjects in the study and in 3 persons treated subsequently with the same preparation of streptomycin. Four of the instances of deafness occurred after the intrathecal administration of the streptomycin, and the fifth developed in a subject with pronounced renal insufficiency.

Cylindruria appeared intermittently in the majority of the subject and it was present uniformly when a highly acid urine was excreted Reduction in renal function appeared in only 2 persons, and in 1 of these the restoration of normal function occurred despite the continued administration of the drug.

Complications of Topical Use of Sulphonamides

Dopes (*Georgia M.A.J.*, **26**:70, 1947, Ref. *J.A.M.A.*, **134**:399, 1947) describes reactions which follow the topical use of sulphonamides. There is a vesicular reaction, with erythematous, vesicular and sometimes bullous lesions. The areas of contact are involved, but the eruption may become generalized even though application of the drug is discontinued. Eczematoid reaction is characterized by weeping plaques which usually appear in and around the areas of contact. Sometimes bleeding and sanguineous crusts are present. Occasionally some vesiculation is noted at the periphery of the plaques. In severe reactions a sensitizing eruption called an "id" may appear on distant parts of the body. Clinically, the "id" eruption is macular, maculopapular and vesicular. The nummular eczema-like eruption usually appears after prolonged local use of the sulphonamide drugs. The eruption is characterized by oval, circumscribed, infiltrated, weeping patches. The lesions frequently appear as if studded with droplets of serum. There is a dermal, epidermal sensitivity in which the eruptions are varied in appearance and severity and may give a picture of a typical drug eruption. The treatment of eruptions due to sulphonamides should always be simple and soothing. When a reaction occurs the drug should be discontinued. Ultraviolet rays and roentgen rays are contraindicated because sulphonamides are photosensitizing drugs. The use of sulphonamide drugs for local application should be

discouraged and the free sale over the drug store counter should be prohibited.

Clinical Use of Anticoagulants

Allen (*J.A.M.A.*, **134**:323, 1947) gives in the following lines the summary of his observation:—

Students of coagulation of the blood must give more attention to the desirability of impairing the ability of blood to clot within blood vessels. This statement is emphasized by the observation that hæmorrhage causes many fewer deaths than intravascular coagulation of the blood.

Experimental and clinical studies indicate that coagulation of blood may be impaired by anticoagulants with the result that intravascular thrombosis usually can be prevented; hæmorrhage occurs infrequently when anticoagulants are used expertly.

Heparin and Dicumarol (3, 3'-methylene-bis-[4-hydroxy-coumarin]) are fairly satisfactory anticoagulants, but they have deficiencies which make desirable a continued search for an ideal anticoagulant for clinical use.

Hæmorrhage is the sole danger from the expert administration of these drugs. Minor hæmorrhage occurred in 3·1 per cent and major hæmorrhage in 1·9 per cent of 1,686 postoperative cases. Two deaths occurred from hæmorrhage, but in 1 case bleeding was obviously not caused by Dicumarol, and there was doubt that the drug was responsible for bleeding in other case.

In 280 cases of postoperative venous thrombosis there were but 8 cases of subsequent venous thrombosis (68 cases would have been expected without Dicumarol therapy) and no cases of fatal embolism (16 cases would have been expected without such treatment).

In 716 cases of abdominal hysterectomy there were but 2 cases of venous thrombosis (29 cases would have been expected without the use of Dicumarol) and no cases of fatal pulmonary embolism (5 would have been expected without the use of this drug).

In 292 cases of postoperative pulmonary embolism 3 cases of subsequent venous thrombosis occurred (127 cases would have been expected without Dicumarol therapy). Fatal pulmonary embolism occurred once (53 cases of fatal pulmonary embolism would have been expected without the adinistration of this anticoagulant).

The overall experience in this group of 1,686 cases indicates that approximately 93 lives were saved by the use of Dicumarol and that 211 patients were spared the experience of venous thrombosis and pulmonary embolism.

The respective virtues of venous ligation and anticoagulant therapy have not been determined in a manner which is wholly satisfactory. With one minor exception it appears that the expert use of anticoagulants produces results which exceed those which follow ligation of veins.

Medicine is on the threshold of new and satisfying experiences with methods for the prevention and treatment of intravascular thrombosis.

New Methods of Therapy in Cirrhosis of the Liver

Morison (*J. A.M.A.*, **134**:673, 1947) writes that a group of 20 patients with cirrhosis of the liver was treated by an intensive combined therapeutic regimen from 1943 to 1945; the results were compared with those in a control series observed from 1938 to 1940. The control patients did not receive any of the forms of treatment given to those in the treated group.

All 43 patients were separated into groups with and without evidence of portal decompensation or ascites. Therapeutic results were compared over two year periods of time in each group.

The treatment consisted of the daily ingestion of 2 gm. each of methionine and choline chloride, an aqueous whole liver extract with vitamin B complex supplement administered parenterally each day and a diet of maximal protein-carbohydrate, minimal fat intake with casein supplements.

After two years all patients in the treated group without ascites were alive, as compared with 3 deaths in the 11 patients of the control series.

After two years 8 of the 9 treated patients with ascites were alive, as compared with 3 of the 12 in the control series.

Six of the 9 treated patients without ascites had returned to normal activity in two years, as compared to 2 of the 11 in the control group.

Four of the 9 treated patients with ascites had returned to normal activity in two years, as compared with 2 of the 12 patients in the control series.

Use of Vitamin B Complex in Treatment of Cirrhosis

Patek (*New York State J. Med.*, **64**:2519, 1946) writes that the etiology of Laennec's cirrhosis is still unsettled but there is much evidence that it arises on a nutritional basis. The disease is not always chronic but may develop within a short time of several months. If medical treatment is undertaken early there is a good chance for recovery. Jaundice, ascites, splenomegaly and vascular spiders are evidence of an advanced stage of the disease. Treatment of 124 patients in the decompensated stage was undertaken. Bed rest, restriction of salt intake, drinking of about two liters of fluids daily and a high calorie diet were tried. Protein intake was high while fat and carbohydrates were moderate. Crude vitamin B complex preparations and large doses of brewers' yeast were given. Distinct signs of clinical improvement were noted in 51 of the patients.

Anti-Scorpion Serum Therapy

Valley-Radot (*J.A.M.A.*, **134**:913, 1947) at a recent meeting of the National Academy of Medicine, presented a communication from E. Sergent of the Pasteur Institute of Algeria on the result of ten years (1936 to 1946) of application of anti-scorpion serum therapy. There are fifteen kinds of scorpions in northern Africa, the most dangerous of them being Prionuris australis. For the preparation of anti-scorpion serum, horses submitted to malleinization and vaccinated against tetanus are used. Only the venom of Prionuris australis is used, the serum thus obtained being equally efficient against other northern Africa scorpion venoms. Without treatment, death generally occurs within two to twenty-four hours after the patient has been stung; if symptoms are at once serious, serum is to be injected as soon as possible (before the fourth hour). The doses are 20 cc. subcutaneously or intravenously for adults and 30 to 50 cc. for children, who are more responsive to the venom than adults. In alarming cases several hundred cubic centimeters

of isotonic solution of sodium chloride is to be injected simultaneously in another part of the body. The author used serum in 2,209 cases. Out of 531 hopeless cases (134 were at the very point of death), 472 were cured. Protracted toxic phenomena being liable to occur, patients should be kept under observation for several hours and the treatment resumed should toxic symptoms reappear.

Oral use of Penicillin in Chronic Ulcerative Colitis

Streicher (*J.A.M.A.*, **134**:339, 1947) writes that penicillin administered orally may be employed in chronic ulcerative colitis in doses from 100,000 to 300,000 units daily.

It is an aid in the management of chronic ulcerative colitis.

It is effective against some gram-positive organisms found in the stools of ulcerative colitis.

Penicillin levels were obtained in the urine, blood and stool.

Phthalylsulphathiazole and oral penicillin may be administered simultaneously to advantage.

Treatment of Macrocytic Anaemia in Relapse

Frommeyer and Spies (*Am. J. Med. Sc.*, **213**:135, 1947) report the resuts of treating 109 patients with concentrated liver extract, 24 patients treated with synthetic folic acid and 14 patients treated with synthetic 5-methyl uracil. These patients had either true addisonian pernicious anæmia, nutritional macrocytic anæmia or the macrocytic anæmia of tropical sprue. The hæmatologic findings show that, under the conditions of the study and in the dosages used, each of these three substances cause a remission. The clinical and hæmatologic response to folic acid parallels that which occurs following concentrated liver extract therapy, but the rate of regeneration is greater with potent liver extract. The authors especially recommend folic acid when there is sensitivity to liver. Synthetic 5-methyl uracil is the least effective of the three substances. The rate of red cell rise and the peak attained is definitely of a lower order than that obtained with either synthetic folic acid or concentrated liver extract. While 5-methyl uracil is of great scientific interest, it has no practical therapeutic value at the dosage level required to maintain a normal red blood cell count. From these and other studies it seems to the authors that the active principle in liver extract is not folic acid but is a very powerful substance which, when obtained in pure form, probably will be no more efficacious per unit weight than is folic acid.

The Treatment of Chronic Cholecystitis

Ivy (*Clin. Med.*, **54**:119-20, 1947) feels that lecithin is no more potent than egg yolk and that hormones have no place in the therapeutic regime of chronic gallbladder inflammation.

Cholecystokinin may prove a useful diagnostic agent in biliary dyskinesia.

The treatment suggested consists of finding the individual patient's fat tolerance and placing him on an amount just below tolerance. In this way, an academic "high or low" fat tolerance diet is eliminated. The individual tolerance varies from 20 to 100 grams a day.

The author gives his patients "carefully guarded" doses of heavy magnesium oxide before meals, three or four times a day rather than magnesium sulphate, because "it decreases the resistance to the flow of bile into the duodenum" and is more palatable than epsom salt. He cautions that the dose should be below the laxative dose and that excessive use will increase the symptoms and increase intestinal irritability.

He believes a proportion of patients with chronic gallbladder complaints are suffering from a "spastic" colon and that proper management of the latter by diet will relieve all symptoms.

As additions to his dietetic management of dyskinesia he recommends omission of raw foods and at times fruit juices. He also stresses thorough mastication of foods.

Some patients require belladonna in addition. The first dose should be sufficient to cause mild toxic symptoms. At times one week of this medication is sufficient: at others, it is necessary to inject 1|60 grain of atropine. After an initial "priming dose", smaller amounts are successful.

Bile salts are given four times a day to insure a good flow of thin bile.

Actinomycosis of the Face and Neck

Lamb and others (*J.A.M.A.*, **134**:351, 1947) write that sixteen cases of cervicofacial actinomycosis are reported, 1 aerobic and 15 anaerobic in type.

Available evidence indicates that granule formation is an antibody antigen reaction of the actinomyces to unfavourable environmental conditions in the host. Primary cutaneous actinomycosis can be caused by aerobic actinomyces (nocardia), as is shown by cultural evidence from a case cited.

Roentgen therapy and oral administration of drugs to combat infection have proved adequate in uncomplicated cases of the anaerobic type of cervicofacial actinomycosis. If osteomyelitis of the mandible occurs orthopedic sugical intervention or even plastic surgery may be necessary.

We have found that the best treatment consists of filtered roentgen radiation applied locally, with sulphadiazine given by mouth. Penicillin has proved valuable in some cases, but it is more expensive than the sulphonamide drugs and must always be administered in large doses over long period of time.

Treatment of Acute Gonococcic Urethritis with Penicillin

Frost and others (*Am. J. Syph.*, **31**:300, 1947) wirte that of 200 patients with acute gonococcic urethritis, 117 (88·5 per cent) were cured by a single subcutaneous injection of 300,000 units of penicillin in beeswax-peanut oil, and twenty-three (11·5 per cent) were failures. These results compare favourably with those obtained previously when penicillin-beeswax mixtures were administered by the intramuscular route.

There was less discomfort at the time of injection with the subcutaneous than with the intramuscular route, but in a small percentage of cases, in which the material was injected too superficially, subcutaneous injections were followed by induration, nodules and sterile abscesses.

The detection of eleven of the twenty-three failures three weeks after treatment emphasizes the necessity of a minimum follow-up period, both clinical and bacteriologic, of at least twenty-one days.

Single subcutaneous or intramuscular injections of 300,000 units of penicillin-beeswax-peanut oil (1 c.c.) constitutes the simplest and most satisfactory method of treating acute gonococcic urethritis available at the present time.

Treatment of Gonorrhoea with Streptomycin

Chin and others (*Am. J. Syp.*, **31**:268, 1949) write that streptomycin appears to be an effective drug in the treatment of gonorrhœa. About 90 per cent of the cases treated responded to 0·2 gm. and 100 per cent to 0·3 gm. or more.

Streptomycin can be administered intramuscularly as a single dose in water solution in contrast to penicillin in which multiple doses are necessary or oil-wax mixtures must be used.

Toxic reactions are very mild when pure preparations are used and no cutaneous manifestations were noted in any case treated with a single dose. Local pain was also very mild.

Patients failing to respond to streptomycin were cured with a second treatment of 0·2 gm. of streptomycin or with penicillin.

Healing Time in Peptic Ulcer

Cummins and others (*Bull. U.S .Army Dept.*, **6**:288, 1946) could find little in the medical literature relating to the healing time of peptic ulcers. Fluoroscopic and roentgenographic studies at commencement of treatment and during periods following treatment were made in 63 cases of duodenal and 6 cases of gastric ulcers among army peirsonnel. The patients ranged from 22 to 66 years in age the average being 31 years.

All patients were kept on the same regimen. Bed rest was enforced for the first 3 days and restricted activities during the following days. For the first 28 days the patient was given alkaline powders every 2 hours during the day and at night if in distress. Six ounces of a milk-and-cream mixture were given every 2 hours during the day for the first 28 days, and later only between meals. Special soft diets were given during the first 28 days. At first the meals were numerous but small, later they were given only 3 times per day. During the first 28 days tincture of belladonna, phenobarbital and vitamin concentrates were given.

The average time taken for the duodenal ulcer crater to no longer become visualized was 40 days. This time of healing could not be correlated with the following: duration of ulcer symptoms, age of patient, incidence of recurrence, or size of the crater as found at commencement of therapy.

Stilbaestrol in the Prevention of Cinchophen Peptic Ulcer

Nasio (*Rev. Gastroenterol*, **14**:467, 1947) writes that in a group of 38 dogs the parenteral administration of cinchophen (atophan) and of stilbæstrol propionate in doses of 0·25 to 5 gm. daily, in periods ranging from 12 to 26 days, prevents appearance of the experimental cinchophen peptic ulcer in 100 per cent of the male dogs and in 22 per cent of the females.

Most of the stomach of the experimental animals, particularly the male dogs, presented an apparent hyperplasia of the gastric mucosa, of a parcelar granulous feature. This condition was more marked and extensive in the male dogs and in those receiving high doses of stilbæstrol.

In a great number of cases the stomach of these animals prsented a hæmorrhagic-congestive gastritis, coexisting with the ulcerous healed lesions or those in the process of healing.

In 60 per cent of the females with cinchophen peptic ulcers the lesions were in the process of healing.

In half of the cases of animals receiving stilbæstrol alone the stomach seemed to be apparently normal, in the other half an apparent gastric hyperplasia and a congestive hæmorrhagic gastritis could be seen.

The notable difference in the prevention of cinchophen ulcers by means of stilbæstrol in the female dogs, from that in the male ones, may be explained by the lesser proliferative action of this œstrogen upon the gastric mucosa.

It is likely that the prevention of cinchophen ulcer with stilbœstrol would be the result of its epithelitropic and vasodilating action, particularly by its indirect effect of depression of the chlorhydropeptic activity, of main importance in the genesis of experimental and human ulcer.

These experiments constitute an original contribution to the œstrogenic treatment of human gastroduodenal ulcer.

Histamine in the Treatment of Peptic Ulcer

Bernstein (*Rev. Gastroenterol.*, **14**:129, 1947) writes that ninety-two unselected patients with gastric, duodenal, and marginal ulcers were treated by daily subcutaneous injections of 0·3 mg. of histamine phosphate. In addition the patients were kept on the usual bland diet with frequent milk feedings. Gastric analysis, when done, showed in most instances the expected rise in gastric acidity. In the group there was one fatality, a woman who developed a perforation and hemorrhage. One male perforated at onset of treatment, two developed easily controlled hemorrhage, and a few had tarry stools which did not interrupt the treatment. Sixty-one of the cases had complete relief from ulcer pain after the fourth injection and a total of 76 were completely relieved after the tenth. Eight failures were recorded. It is believed that these results indicate the greater importance of the vascular origin of the pain over that of the acid-pepsin mechanism.—W. D. Beamer.

Relationship of Proctologic Diseases to Gastrointestinal Disorders

Gerendasy (*Rev. Gastroenterol.*, **14**:492, 1947) writes that many functional disturbances associated with severe symptoms in the gastro-intestinal tract may be caused by local anorectal disease. These may be produced by focal (anal) toxic absorption but more commonly by reflex stimulation through the vegetative nervous system. Along with other areas of focal infection such as the teeth, tonsils and sinuses, disease of the terminal bowel should be considered as a cause of systemic dysfunction. Rectal examination as a routine procedure with proper interpretation and treatment of the conditions present should receive serious consideration in every patient.

The more common subjective symptoms are encountered:

1. Epigastric fullness. 2. Flatulence. 3. Abdominal distention. 4. Nausea and vomiting. 5. Heartburn and sour eructation. 6. Gnawing sensation in the epigastrium. 7. Emotional disturbances, depression, and irritability. 8. Frequently symptoms closely simulating duodenal or gastric ulcer. 9. Severe colicky pain in the abdomen and bilious attacks.

These symptoms are usually associated with the objective signs noted as follows:—

1. Constipation-spastic or atonic (dyschezia). 2. Gaseous abdominal distention. 3. Coated tongue. 4. Spastic tender

sigmoid and descending colon. 5. A dilated cecum and ascending colon. 6. Small intestinal spasm. 7. Tenderness in right lower quadrant due to spasm of ileocecal junction. 8. Cardiac irregularity associated with precordial pain due to a gas pocket in the splenic flexure.

Is There an Intrinsic Asthma?

Waldbot (*Ann. Int. Med.*, **26**:863, 1947) writes that asthma has been classified as extrinsic and intrinsic according to whether causative agents are demonstrable which enter the system from without or arise within the organism. In addition, some have described a syndrome of intrinsic asthma characterized by such clinical features as age of onset at 40 or above, negative skin reactions, progressive course and intractability to therapy.

In order to determine whether or not such a syndrome exists and whether a distinction between extrinsic and intrinsic asthma should be made on the above basis, 323 individuals were selected from a total of 1,442 asthmatic patients. They had perennial, continuous wheezing and had been under observation sufficiently long to permit a proper evaluation of their conditions. Among those excluded were cases with asthmatic wheezing which might easily have been interpreted as allergic asthma of the "intrinsic" type.

In seven of the 323 patients, the disease progressed and five additional ones died. In none of these could the above described syndrome be identified. In three cases, no clues as to the origin of the attacks could be detected. In each on the pattern of the attacks appeared different and it is impossible to group them under the common heading of "intrinsic asthma."

Intrinsic causes were definitely responsible for attacks in a large number of the 323 patients. Among these the most important ones were sensitivity to cold temperature, to endocrine products (premenstrual aggravation!) and bacterial infections. Psychogenic factors, products of digestion, or such physiological fluids as insulin, liver exrtact, colostrum may or may not play a part. In no case were such intrinsic factors found to be the only causes to the exclusion of those termed extrinsic.

This evidence indicates that there is no justification for the diagnosis of intrinsic asthma as a symptom complex and that the concept of such a syndrome may lead to faulty diagnosis and to abandonment of treatment at a time when treatment is needed and may be most effective. The term "intrinsic asthma" based on the assumption that the disease is due to intrinsic causes is misleading since such causes are not present to the total exclusion of extrinsic causes.

Pulmonary Filariasis

Rifkin and Eberhard (*Ann. Int. Med.*, **25**:324, 1946) cite a recent editorial in the *Naval Medical Bulletin* (**54**:181, 1945) in which the statement is made that there is in filariasis a "pulmonic phase manifested by a prevalent morning cough, conspicuous in natives of endemic areas, which leads to a suspicion of widespread tuberculosis." In the literature available to the authors they could find no record of proved pulmonary filariasis or filarial pneumonia. They had, however, occasion to examine a native of the South Pacific island whose clinical pictuure suggested this possibility.

The patient was a 39-year-old civilian laborer, who complained of a hacking cough, blood-stained sputum, and night sweats of two years' duration, as well as fatigue and malaise. Dullness, diminished breath sounds, and moist rales were observed in the right half of the chest, anteriorly and posteriorly, and below the angle of the scapula on the left side posteriorly. There was no lymphadenopathy and no evidence of elephantiasis of the upper or lower extremities.

A chest film showed a soft, mottled, diffuse shadow of increased density fanning out from the left hilum into the lower lobe and covering the lung field from the border of the eighth rib downward. The shadow became less dense below and laterally, leaving the lung margins almost clear. A shadow of the same character, but occupying an irregular area about 5 cm. in diameter, was present in the mid zone of the right second anterior interspace. Six weeks later all of the shadows had regressed. The fluffy shadows of parenchymal infiltration had cleared, leaving in the left lower and right upper lobse fan-shaped zones of hard linear densities extending from the hila.

Microfilariae (*Wucheria bancrofti*) associated with many eosinophils were found in sputum concentrates, but no acid-fast bacilli, yeasts, fungi, or molds. Peripheral blood examination revealed a heavy microfilarial infestation, and a skin test gave a positive reaction to a titer of 1:8,000 and 1:6,000. These findings are believed to suggest an acute filarial reaction involving the bronchial lymphatics. It is further suggested that œdema and eosinophilic infiltration of these lymphatics were responsible for the transitory pulmonary infiltrations demonstrated roentgenographically.

The presence of the microfilariae in the sputum can be explained on two bases: first, rupture of the alveolar capillaries with an outpouring of the organisms circulating in the blood stream into the alveoli; second, involvement of the larger bronchioles and bronchi in a generalized filarial infection, producing increased intraluminal tension with resultant filarial bronchorrhea.

Diagnosis and Management of Spontaneous Hypoglycaemia

Conn (*J.A.M.A.*, **134**:130, 1947) writes that a diagnostic awareness of the possibility of spontaneous hypoglycæmia represents the first step in the recognition of the relatively large number of patients suffering from this characteristic syndrome. With hypoglycæmia established as the cause of the symptoms in question, the next step is to determine, by differential diagnostic methods, the specific etiologic factor in the individual patient. A rational approach to therapy and a successful result are dependent on discovery of the cause, since the indicated treatment (surgical or medical) varies with the specific etiology of the hypoglycemia. Of the many possibilities classified, three have given greatest difficulty in differential diagnosis and comprise 80 per cent to 90 per cent of all cases of spontaneous hypoglycemia. They consist of (1) functional hyperinsulinism, (2) organic hyperinsulinism and (3) hepatogenic hypoglycæmia. Clinical and laboratory criteria, helpful in distinguishing one type from another, are available in the annexed table.

A high protein, low carbohydrate diet is successful in the management of functional hyperinsulinism. Organic hyperinsulinism requires pancreatic surgery. A diet both high in carbohydrate and high in protein is indicated in cases of hepatogenic hypoglycæmia. Of patients whose disease falls in the latter group, a select few will be benefited by cholecystectomy.

The Usual Points of Distinction in Types of Spontaneous Hypoglycemia

Liver Function	*Clinical Course (Progression and Time and Attacks)*	*Type*	*Fasting Blood Sugar*		*Dextrose Tolerance Curve (after standard dietary prep.)*
			Standard Diet	*Carbohydrate restriction or 24 Hr. fast*	
Normal	Not progressive in severity; more frequent under emotional or physical tension; relief by vacations etc; attacks 2 to 4 hrs. after meals; no prebreakfast attacks; no effect of skipped or late breakfast.	Functional hyperinsulinism.	Normal	Normal*	Normal fasting blood sugar (sharp fall to hypoglycemic levels between 2nd and 4th hour).
Normal	Progressive in frequency and severity; pre-breakfast attacks frequent, 2 to 8 a.m.; attacks 2 to 4 hrs. after meals; attacks precipitated by skipped or late meals or exercise.	Organic hyperinsulinism.	Subnormal (usually below 50 mg./100 c.c.	Subnormal (always below 40 mg./100 c.c., usually below 30 mg./100 c.c.)	Subnormal fasting blood sugar (low curve; sharp fall to severely low levels between 2nd and 5th hour).
Uusually decidedly diminished.	Progressive in frequency and severity; prebreakfast the time of most frequent occurrence, 2 to 8 a.m.; day time attacks rare unless precipitated by a skipped meal; sometimes clinical evidence of hepatic.	Hepatogenic hypoglycæmia.	Subnormal (often below 50 mg./100 c.c.	Subnormal (always below 40 mg./100 c.c., often below 30 mg./100 c.c.)	Subnormal fasting sugar (hyperglycemic plateau curve with glycosuria; gradual fall to hypoglycemic levels in 4 to 7 hours).

Management of Infectious Hepatitis

Capp and Barker (*Ann. Int. Med.*, **26**:405, 1947) write that infectious hepatitis is a more serious disease than was priviously thought and it should be treated accordingly. The cardinal principles of treatment are early strict and sufficient bed rest, high protein, moderate fat and high carbohydrate diet and avoidance of additional liver trauma. These measures are effective in reducing the duration of the disease and the incidence of relapse and chronicity.

Bed Rest—In the presence of hepatitis, exercise will produce an exacerbation of the disease. Failure to go to bed during the acute icteric stage has caused cases of only moderate severity to progress to a fatal outcome over a period of weeks. Cases of acute hepatitis put to bed during the first few days of illness are less likely to develop jaundice than those who remain ambulatory. The former cases recover early than those who have only a short period of bed rest or fail to keep strictly to bed. Early bed rest should be maintained until recovery. Bathroom privileges are permissible in all but the seriously ill.

Diet—A diet high in protein is most desirable in acute liver injury. Fat has harmful effect, and should be restricted moderately. Carbohydrates should be high in order to spare protein as well as to provide calories. For the average case a diet of protein 200 grams, fat 65 grams, and carbohydrate 300 grams is recommended.

An already injured is extremely sensitive to toxic agents which ordinarily would have little effect. This is especially true in the prodromal and early icteric stages. The most common causes of additional trauma are surgical operations, secondary infections and exposure to various toxic substances, notably alcohol. Ether, chloroform and possibly ethlene are most dangerous anæsthetics. In case of emergency local or spinal anæsthesia are recommended. Of secondary infections malaria, diarrhœas and virus pneumonia are the most important. Saline purges and other cathartics are harmful. Enemata should be advised for constipation. Morphia and barbiturates also have deleterious effect on the liver, and should be used with caution.

Prodromal stage—If in doubt, treat the case as one of infectious hepatitis. Jaundice should appear within ten to fourteen days. The treatment is symptomatic except for rest and diet. Avoid additional liver injury.

Acute icteric stage—All cases should be treated as potentially severe until proved otherwise. Strict bed rest should be enforced. A high protein intake must be maintained, with intravenous aminoacids or plasma, if necessary. Glucose should be given intravenously. A daily fluid intake of 3,000 c.c. is necessary. Chilled skimmed milk is well tolerated. Avoid intravenous saline solutions as this is likely to help fluid retention and produce generalized edema. Intravenous glucose is given in the form of 5 to 10 per cent solution.

In the more severe cases vitamin-K is given if the prothrombin time is elevated or if bleeding is noted. The dose should not be over 5 mg. parenterally. Larger amounts will depress liver function. If prothrombin time continues to be high, transfusions are indicated. Hypoglycemia is combated with frequent administration of glucose. Ascitis spontaneously disappear. Cathartics and salts are contra-indicated. Bile salts are harmful. For cramps give atropine. Thiamine chloride in large doses is toxic to liver. Salicylates are harmful with increased prothrombin time. For complicating infections penicillin is preferred to sulfa drugs.

Acute hepatitis without jaundice—This has a milder course. The treatment is the same as outlined above.

Convalescent Stage—The criteria for ambulatory status are (1) At least three weeks' bed rest. (2) Liver must not be enlarged and not tender. (3) Absence of symptoms especially lassitude, diarrhœa, intestinal cramps, flatus, headache and anorexia. (4) Normal serum bilirubin for one week. If slightly elevated, the direct Van den Bergh must be negative. (5) Bromosulfalein under 10 per cent in one hour and preferably under 5 per cent. (6) If available, the cephalin cholesterol flocculation test should be 2 plus or less in twenty-four hours and the alkaline serum phosphatase under 4·0 Bodansky units. (If only one finding is positive keep patient in bed one extra week and then try on ambulatory status.

Chronic hepatitis—Eliminate all complicating infections, *e.g.*, dental and other foci, amebiasis and malaria. Non-specific diarrhœa must be controlled. Where necessary use vioform, sulfaguanidine or dilute hydrochloric acid by mouth. Some crude liver extract intramuscularly is often useful. Nutrition must be maintained satisfactorily.

Neostigmine in Muscle Spasm in Rheumatoid Arthritis

Wramner (*Acta Med. Scand.*, **126**:241, 1946, Ref. *J. A. M. A.*, **133**:1248, 1947, investigated the relaxing effect of neostigmine on muscle spasm in 25 patients with rheumatoid arthritis and associated conditions. The neostigmine was administered subcutaneously in doses of from 0·25 to 1·25 mg. once daily. In 21 of the 25 patients there resulted a decrease in muscular pain, muscle rigidity and pain on movements, and an increase of mobility was observed. The effects appeared within ten to twenty minutes after the subcutaneous injection and lasted up to fourteen hours. Neostigmine probably causes this effect by depressing the motor cells of the anterior horn.

Penicillin in Neurosyphilis

Koteen and others (*Am. J. Syp. Gon. & Ven. Dis.*, **31**:1, 1947) give the following report based on observations of the effects of penicillin therapy in 111 patients with neurosyphilis treated in the medical service of the New York Hospital: All the patients have been followed for at least twelve months after the cessation of treatment. Six of 11 patients with dementia paralytica attained remissions of their disease. Four of the 5 patients who failed to show significant improvement were badly deteriorated prior to therapy. There was a great change in the cerebrospinal fluid abnormalities not only in those paretic patients who showed clinical improvement but also in some who failed to improve clinically. Forty-one patients with tabes dorsalis complained of a total of fifty-seven symptoms. There was subjective improvement in thirty-three of the fifty-seven symptoms after penicillin therapy. No striking improvement was observed in the objective manifestations of tabes dorsalis. In isolated examples of various clinical forms of meningovascular syphilis the therapeutic results after penicillin were comparable to those usually observed after arsenotherapy. The authors conclude that the administration of penicillin for a two week period produces a striking effect on the cerebrospinal fluid abnormalities and certain of the clinical manifestations of late neurosyphilis. It is believed that the penicillin therapy of neurosyphilis (exclusive of primary optic atrophy) approaches and may equal fever therapy in effectiveness.

Use of Anticoagulants in the Management of Acute Myocardial Infarction

Parkar and Barkar (*Proc. Staff Meet. Mayo. Clin.*, **22**:185, 1947) write that dicumarol alone or dicumarol in combination with heparin has been used in the management of fifty patients with acute myocardial infarction. The mortality rate in this series was 10 per cent. There were only two instances of secondary thrombo-embolic complications in this series (4 per cent), in contrast to an incidence of 37 per cent for such complications in a control series (Nay and Barnes) of 100 patients whose treatment was, in all respects, similar except that anticoagulants were not used. No serious complication occurred as the result of the use of anticoagulants and, although the present series is small and is presented as a preliminary report, the results to date seem most favourable. The authors believe the results warrant continuation of the use of the anticoagulants in question.

Hiccup Treated with Amyl Nitrite

Nairn (*Lancet*, **1**:829, 1947) reports a case of hiccup of nearly four days' duration and of doubtful aetiology. The most likely cause seems to be encephalitis lethargica.

Inhalation of amyl nitrite was used with immediate success after most of the better recognised methods of treatment had proved unsuccessful.

Medical Treatment of Intestinal Obstruction

Sadiq (*Indian M. Gaz.*, **82**:11, 1947) writes that pituitrin administration is definitely of value in cases of intestinal obstruction. Out of 10 cases reported only one was unsuccessful, giving a mortality of 10 per cent. At least this should always be tried before finally deciding on any operative intereference.

Rest *versus* Activity in the Treatment of Fractures

Perkins (*J.A.M.A.*, **134**:204, 1947) in a presidential address to the Orthopœdic Association London, stated that the enormous advantages to be derived from activity of a fractured limb are not sufficiently recognized. Thus the hand is still immobilized for fracture of the scaphoid with the thumb abducted in the plane of the palm, instead of at right angles to it. In this faulty position the patient cannot oppose the thumb and fingers, and the use of the hand is seriously curtailed. The foot is immobilized in slight equinovarus instead of in the plantigrade position, so that there is great difficulty in walking. The advantages of encouraging activity of the limb are that rehabilitation can proceed hand in hand with bone repair, and the harmful effects of splintage are minimized. It is no longer necessary to apply an Unna's paste bandage after removal of a plaster for fracture of the tibia and fibula. Postplaster swelling has disappeared from the practice of those who make their patients walk normally while wearing a plaster cast.

Exercise for Free Joints—Mr. Perkins laid down the rule that all joints not immobilized by splintage should be moved actively by the patient. The splint should be shortened to minimum, so as to free as many joints as possible. Longitudinal compression of the bone ends was the essential stimulus for bone (as opposed to fibrous tissue) repair. Hence the value of early weight bearing. Most surgeons would advocate it but for fear of overriding of the fragments, but Mr. Perkin's experience was that little is to be feared. He grants, however, that there is a danger in transverse fracture when the two

fragments are not parallel, for a force not perpendicular to the line of fracture tends to angulate the fragments, distracting the raw bony surfaces from one another and stimulating the production of fibrous tissue.

Mr. Perkins holds that the main reason why a healthy joint stiffens as a result of splintage is that the muscles lose their power of lengthening. This can be prevented by making them contract and relax periodically throughout the period of immobilization. They need not be stretched to the full extent. In a fractured scaphoid the wrist can be immobilized for months without becoming stiff if the patient uses his fingers. A muscle under a splint will continue to act in a synergic capacity provided one of the joints over which it spans is free to move. If in fracture of the shaft of the femur both knee and hip are immobilized—as they must be if the splint is to keep the fractured ends from moving—the thigh muscles cannot act synergically because both origins and insertions are fixed. The consequence is a still knee. But if the hip is not splinted and the patient is encouraged to lift his leg (he need not bend the knee) the synergic action of the thigh muscles is retained and the knee does not stiffen.

Problems in the X-ray Diagnosis of Early Cancer

Davis (*California & West. Med.*, **66**:177, 1947, *Rev. Gastroenterol*, **14**:507, 1947) writes that gastric carcinoma is recognized too late for successful operation in 75 per cent of cases due to the fact that: (1) the growth may be in a silent area of the stomach, remaining asymptomatic until the lesion has reached an inoperable stage; (2) the cancer may be so malignant that early involvement of the adjacent lymph-nodes and organs takes place; (3) differentiation between benign and malignant lesions may be difficult in borderline cases. The roentgenographic findings in carcinoma of the stomach are: the filling defect, the palpable mass, absence of peristalsis in the involved area, lack of normal flexibility of the stomach wall, abnormality of the gastric mucosa and barium retention. The extent, location and mobility of the lesion, as revealed by roentgenography, determine its degree of extension and operability. If the findings are inconclusive they should be clarified by gastroscopy.

Cancer may develop on mucous membrane damaged by gastritis, polyps or gastric ulcer. In gastritis, gastroscopy is of more value than roentgenography. However, roentgenographic evidence of stiffening of the stomach wall, and absence of peristalsis, indicate probable malignancy. Congenital polyps appear under the x-ray as negative circular shadows. The acquired type of polyp on the basis of gastritis, important in the development of cancer, may be detected by gastroscopy and biopsy. Small ulcerating carcinomata and carcinomatous ulcers may be mistaken for chronic benign ulcers. If the ulcer niche is large, peristalsis absent and the adjacent rugae obliterated, or the margins are irregular in profile, as seen roentgenographically, the lesion may be considered to be potentially malignant. In ulcerating carcinoma the cavity is within the gastric lumen. If the meniscus sign (Carman) is present, the lesion is probably malignant.

Acute Appendicitis in the Aged

Simpson (*Brit. M.J.* **2**:986, 1946) writes that the symptomatology of acute appendicitis in patients past the fifth decade is somewhat different from that in younger people. Pain is generally present but is not well localized. The pain is milder than in younger patients but becomes severe when peritonitis is present. A slight fever may be present. Other well-recognized symptoms noted in younger patients with appendicitis are usually absent. These include nausea, vomiting and rapid pulse. Tenderness and rigidity as well as the pain shown on rectal examination are usually absent or only present to a moderate degree.

In consequence of the absence of many of the well-defined signs and symptoms associated with appendicitis in the younger age groups the elderly patient often is not recognized as being ill until peritonitis has set in. At this stage the mistaken diagnosis of intestinal obstruction is usually made. From 1 to 2 per cent of the cases of acute peritonitis occur in patients past sixty years.

Strangulated Femoral Hernia: Review of 104 cases

Jarboe (*Proc. Staff Meet. Mayo Clinic*, **22**:255, 1947) writes that on the basis of results of this study of strangulated femoral hernia, a number of proposals can be derived which may be of value in an attempt to lower the high fatality rate. Among the more important conclusions are: (1) all femoral hernias ought to be repaired when first diagnosed, before strangulation occurs, (2) early diagnosis of acute strangulation and operation within the first twenty-four hours are absolutely necessary, (3) proper surgical management should include radical primary removal of all nonviable or questionably viable strangulated viscera, and (4) more effective prophylactic, therapeutic and supportive measures for the alleviation of postoperative shock, peritonitis and other complications should be adopted.

Although the majority of elderly patients who have strangulated femoral hernia are subject to the complications which usually are expected in senescence, it is possible that many operations might be performed with a remarkably low fatality rate if the aforementioned measures are adopted and carried out.

Surgery of the Gall-Bladder

It is a salutary if somewhat humiliating thought that in spite of the advancement of surgery the gall-bladder continues to present many unsolved problems. Thanks to combination of more accurate diagnostic methods more detailed planning of pre-operative treatment, improved technique, and the development of preventive measures against post-operative complications, the mortality of gall-bladder operations has fallen in a period of 20 years from about 4 per cent to 1 per cent or less. Nevertheless, there is still no agreement on whether a gall-bladder should removed from the fundus downwards as recommended by such a sound and experienced surgeon as Allen (*Ann. Surg.*, **121**:412, 1945), of Boston-or from the ducts upwards. The latter method is that usually taught in Love (*Brit. M. J.*, **1**:11, 1947) describes a refinement of cholecystectomy based on the partial removal of the gall-bladder, combined with electrocoagulation of the residual strip left on the liver bed, which he terms diathermy dissection. This procedure allows the raw area of the liver bed to be covered either directly by peritoneal flaps or by a pad of omentum or falciform ligament. If the effects, as is claimed, sufficient sealing of blood and bile vessels to prevent post-operative drainage there is no doubt the consequent avoidance of chest complications would render cholecystectomy a safer procedure.

The author's account in the same article of an abnormal duct from the gall-bladder to the liver draws attention to the well-known multiplicity of variations in the anatomical arrangement of the bile ducts and accompanying vessels, which, combined with difficulty of access, makes the more mechanical side of gall-bladder surgery so difficult. The recent spate of articles on repair of damaged bile ducts is unfortunately not all the result of war injuries. Here again the many ingenious methods of anastomosis described show that no general agreement prevails. Another important practical consideration arises from Love's article: should the common bile duct be opened as a routine during cholecystectomy or not? The pendulum appears to be swinging towards a more conservative approach to this problem, and most surgeons would probably consider a routine choledochogram during operation an unnecessary procedure.

Battles are still being fought over the aetiology of cholelithiasis. The advocates of stasis and infection have recently met a doughty opponent in Robertson (*Surg. Gynec. Obstet.*, **80**:1, 1945) of the Mayo Clinic, who has produced a convincingly argued hormonal (sex-hormone) theory for gallstone formation. The contribution from Majoor and Suren (*Brit. M. J.*, **1**:8, 1947) exhibits another aspect of this evergreen subject and may throw light on it. These Dutch workers, collecting their information during the difficult days of the "occupation," draw their interesting deductions from their post-gastrectomy cases, in some of which gallstone have developed within six months to three years after operation. Their surmise that the interuption of normal duodenal flow leads to such changes in biliary physiology that cholesterol is precipitated in abnormal quantities has both practical and theoretical significance. The biliary apparatus and its contents—physiological and pathological—still offer a wide field for research.—*Brit. M. J.*, **2**:21, 1947.

Treatment of Pancreatic Cysts by Primary Anastomosis to the Stomach or Jejunum

Mahadevan (*Indian J. Surg.*, **9**:73, 1947) writes that treatment of pseudo-cysts of the pancreas by primary anastomosis to the stomach or jejunum seems to be a better method than the time honoured method of marsupialization.

Of 4 cases treated by the above method, 3 are doing well for periods of 2 years and 8 months, 2 years and 4 years and 8 months respectively. One case however died within 48 hours of operation with symptoms not unlike that of acute pancreatitis and so the method is not without some danger.

A much larger series of cases from various sources may have to be collected and observed before the method can be passed as being of almost universal application.

The method seems to have a place, though a more limited one, in true cysts also.

Some of the cases were associated with calculi. This and other associated conditions necessitated alternative methods of treatment and these are detailed.

Contrary to the usual belief pancreatic cysts are more often than not, mobile.

Treatment of Multiple Osseous Metastasis with Radium

Up to the present, the radiotherapy of cancer has had its drawbacks and limits on account of the impossibility of using massive doses without incurring anæmia. Dr. P. Lehmann of the Bichet Hospital set forth before the Academy of Sciences in 1941 a new process for diminishing artificially the radiosensitivity of the skin and mucosa in roentgen therapy. The author used the following ointment, which is spread on the skin previously cleaned: epinephrine 0·01 gm., stovaine 1 gm., benzoinated hog fat 100 gm. For the desensitization of the pharyngolarynx he uses glycerin as an excipient. He also presented to the Paris Society of Medicine the first results of this new method of radio therapy of cancer, which enabled him to treble the usual dose of x-rays without manifestation either immediate or belated of any radio lesion. At a recent meeting of the Academy of Surgery Dr. P. Lehmann presented 4 cases of multiple osseous metastasis of cancer of the breast selected from a large number which have been treated with massive doses of x-rays. A patient received in twenty-two months 55,000 roentgens through various fields and seventy-eight courses of total teleradiotherapy. Another had fifteen courses of total teleradiotherapy within six weeks and locally 6,000 roentgens; pains have disappeared, the general condition has improved rapidly and the examination of the blood disclosed a normal blood formula. After one year the patients are doing well. During the treatment the author saw a calcic reconstruction of the bones invaded by cancer, while neoplastic tissues are destroyed and disappear. There is not, therefore, a danger of spontaneous fracture, and it is not necessary to keep the patients laid up or to maintain them by means of an orthopedic corset. He has also found that by means of the combination of total teleradiotherapy and of local irradiations it is possible to treat in the same patient a series of concomitant metastases without determining by irradiation a new seat of evolutive outbreak elsewhere. It is interesting that the irradiated segment remains cicatrized and that no growth of cancer occurs there. Lehmann has observed that by massive doses of x-rays it is possible to bring to view, under the form of rounded opacity, latent metastases and to treat them precociously. At a meeting of the Society of Dermatology the same author, taking as a basis fifty observations of irradiated cancers, demonstrated the noneexistence of X-ray anæmia so much dreaded up to now. The anæmia in the irradiated cancerous patient, he said, is not due to radiotherapy but to the evolution of the disease. By not letting metastases develop, which has become possible thanks to the new Lehmann process, anæmia regresses as from the third week of radiotherapy with massive doses. A method is thus available permitting extension of the life of patients with multiple metastases.—*J.A.M.A.*, **134**:974, 1947.

Surgical Treatment of Bone Tumors

Coley (Bull. New York Acad. Med., **23**:109, 1947) has found that benighn tumors of the bone should usually be treated surgically, not only because they cause symptoms but because of the possibility of malignant degeneration, especially with the chondromas. Osteochondromas should be removed completely; central chondromas may be curetted and the cavity treated with an escharotic. Both bone cyst and giant cell tumors are usually treated by curettage; bone regeneration is facilitated if strips of cortical bone from the tibia, or chips of cancellous bone from the iliac crest, are employed to fill the cavity; primary wound closure is indicated in these cases. Giant cell tumors in the rib, the fibula, or the patella may be completely removed by resection. Curettage of giant cell tumors, where resection is not possible, may be followed

by recurrence, and eventually by sarcomatous degeneration; recurrences are less frequent with bone cysts. In osteogenic sarcoma of the long bones, amputation is indicated; in a series of 89 amputations for osteogenic sarcoma previously reported by Pool and the author, the five-year survival rate was 32 per cent. The most frequent site of osteogenic sarcoma is the lower fenur, and it used to be considered that a hip-joint disarticulation was indicated in these cases, but as few patients can get about satisfactorily with a prosthesis after this operation, the author has employed high thigh amputation in cases where clinical and roentgenological examination shows the tumor to be confined to the lower femur. The level of amputation employed is always at least as high as the junction of the upper fourth and lower three-fourths of femur. In 39 cases of osteogenic sarcoma of the lower femur and one case involving the lower fibula, high thigh amputation was done; recurrence in the stump occurred in only 2 cases; in one of these a secondary hip disarticulation resulted in a five-year cure. The five-year survival rate for the 40 cases was 35 per cent. These results indicate that in well selected cases the mutilating operation of hip-joint disarticulation can be avoided by high thigh amputation. While radiation therapy promptly relieves pain and causes regression of the tumor in Ewing's sarcoma, such large doses of x-rays are required to sterilize the tumor permanently that the power of normal bone regeneration is destroyed. The author has found that in selected cases, better results may be obtained by a course of preliminary radiation with moderate doses followed by resection of the tumor-bearing portion of the bone. Cases suitable for this combined treatment are not frequently seen, however. In reticulum cell sarcoma, primary in bone, radiation therapy is the method of choice. In some cases where a malignant bone tumor shows the histological characteristics of metastatic cancer, but the primary tumor cannot be found, amputation of the affected extremity may be indicated if pain is severe or there is danger of pathological fracture. The same palliative operation may be indicated in patients with painful primary sarcomas of bone, even if metastatic lesions are present.

Treatment of Chronic Osteomyelitis with Streptomycin

Lampher and Cashman (*New England J. Med.*, **236**:318, 1947) report 4 cases of chronic osteomylitis treated by operation and local application of streptomycin; in 3 cases streptomycin was also given by injection. Thorough debridement and excision of necrotic tissue and poorly vascularized granulations were done as well as sequestrectomy or saucerization. The wounds were irrigated with physiologic saline solution. Fibrin foam soaked in streptomycin was applied to the entire wound surface. If adequate hæmostasis was not obtained at the time of the operation with the use of hot saline packs, vaseline gauze pressure dressings were applied for twenty-four hours before the streptomycin was applied. Streptomycin solution was also employed for irrigation of the wound. The local dosage of streptomycin was 15,000 units; the dosage for the intramuscular injection was 200,000 units every three hours. In each case the infecting organisms were shown to be sensitive to streptomycin by *in vitro* tests. The results in these cases were good, with healing of the wound and excellent callus formation around bone fragments or grafts. A longer period of observation is necessary before these cases can be regarded as cured as recurrence may occur in chronic osteomyelitis many months or years after an apparent cure. The combined therapy with local application and intramuscular injection of streptomycin was found to be of definite advantage, as it permitted such procedures as skin grafting and secondary closure to be done in a much shorter time than local treatment alone. There were no toxic reactions to streptomycin in any of these cases.

Experiences with Intravenous Urography in a General Hospital in India

Norfleet and Hodes (*J. Urol.*, **56**:259, 1946), in their experience in a General Hospital in India made urographic studies of 410 American soldiers with urinary symptoms, using various contrast—diodrast, pyelectan, and skiodan. Evidence of some abnormality was obtained in 184 cases. Renal anomalies (including 5 cases of renal ectopia) were found in 54 (13 per cent). Forty-three (10·5 per cent) had roentgen evidence of renal calculi, but the actual incidence was much higher, as in many instances the examination was made only after the calculi had been passed. Twenty-three patients (5·6 per cent) showed evidence of infection (tuberculosis in a single instance). In 31 cases (7·5 per cent) with clinical symptoms directing attention to the prostate and its neighbouring structures, the urograms showed suggestive changes, chiefly involving the ureters. Among other findings were a single case of renal carcinoma, 4 ruptured kidneys, 11 cases of renal ptosis, 2 bladder neck obstructions, and 1 dilation of the middle third of the right ureter associated with intensive urinary colic and hæmaturia in a patient who was relieved of his symptoms following the removal of an adjacent but normal appearing appendix.

The authors emphasize the value of tests for dye sensitivity. In each of their cases an oral test was used. Although no œdema of the buccal mucosa was seen, there were 3 patients in whom swallowing of about 1 c.c. of the medium produced a sufficiently severe reaction to prohibit intravenous injection of the dye. Following injection of 2 c.c. of diodrast, one patient in whom the oral test had been negative suffered severe nausea, vomiting, and shock, but there were no fatalities. There were 2 instances of hives following diodrast injection, but these yielded promptly to adrenalin. Disturbing nausea and vomiting followed pyelectan from a rubber-stoppered bottle but the same patient tolerated without incident pyelectan from an ampule. Four patients receiving pyelectan had a sterile thrombophlebitis.

Penicillin in the Mouth

MacGregor (*J.A.M.A.*, **134**:391, 1947) at the Section of Odontology of the Royal Society of Medicine opened a discussion on local penicillin in the mouth. He said that the action appeared to be greatest in the first quarter of an hour. The speed of diffusion of penicillin was an advantage in the odontologic field because the drug could reach areas such as gum pockets quickly, but there was the disadvantage that the penicillin was rapidly lost. He used penicillin pastilles to get a slower action. Other methods were penicillin powder for insufflating cavities, cream, as to the advantages of which he was uncertain, and the most recent method of using comes with a fatty base.

A main indication for local penicillin in the mouth was Vincent's disease. In the acute form penicillin was the best treatment, but in the chronic form it was unavailing. There was usually some focus of infection, such as an impacted wisdom tooth, which must be eliminated or recurrence was likely. In ulcers of the mouth the results were mixed. In extractions, operations on cysts and gingivectomies penicillin was of advantage in obtaining a clean field.

DFP in Glaucoma

Although war gases are regarded by most people with more abhorrence than guns or bombs they are in fact more readily converted to the uses of peace. Several of the new gases discovered during the war are already proving to be useful tools in the advance of medical knowledge, and a few of them may even become valuable agents of healing. Diisopropyl fluorophosphonate, or DFP, is an excellent example of this modern version of swords beaten into ploughshares: the recent work of Leopold and Comroe (*Arch. Ophthal.*, **36**:17, 1946) at Philadelphia suggests that this highly toxic substance may prove to be of great value in the treatment of glaucoma.

The powerful physiological effects of fluorophosphonic esters were first observed by Lange and Kreuger, who prepared the dmethyl and diethyl esters in 1932; indeed it was the observation by these authors of marked effects upon respiration and the eyes after brief inhalation of the vapour of these esters which led a group of Cambridge workers to re-examine the alkyl fluorophosphonates in the early years of the war. The most conspicuous effect of inhalation of fluorophosphonic esters is a long-lasting miosis, accompanied by spasm of accommodation, and Odrian, Feldberg, and Kilby (*Brit. J. Pharmacol.*, **3**:56, 1947) discovered in 1941 that these eserine-like effects were due to an intense inhibition of cholinesterase. This inhibition was found by Dixon and his colleagues (*Nature*, **158**:432, 1946) to be, unlike that produced by eserine, progressive and irreversible, an observation which explains the prolonged character of the physiological effects. In 1941 McCombie and Saunders (*Nature*, **157**:297, 1946) prepared a series of homologous esters, of which the diisopropyl ester was found by Adrian and his colleagues to be the most potent.

Aqueous solutions of DFP are not stable, but Leopold and Comroe report than 0·1 per cent solutions in peanut oil retain their potency for several months. In the normal eye instillation of such solutions produces prolonged and intense miosis, spasm of the ciliary muscle, false myopia, and decreased intraocular tension; these effects are equal to or greater than those reported for 1 per cent eserine or 5 per cent "prostigmin". Moreover, 0·2 per cent DFP will over come the effects of 1 per cent atropine.

In the glaucomatous eye 0·05 per cent DFP in peanut oil successfully lowers intraocular tension in a higher proportion of patients and with decidedly fewer instillations than either pilocarpine or eserine. Leopold and Comroe found it effective in controlling intraocular tension in 43 of 48 eyes with chronic simple glaucoma, when pilocarpine or eserine was effective in only 21 eyes. Similarly DFP was much more effective than pilocarpine or eserine in eyes in which glaucoma developed after cataract extraction.

Repeated doses of DFP produce a slight decrease in plasma cholinesterase but no systemic symptoms. The drug does, however, have some untoward and undesirable effects, namely, visual blurring, brow and eye ache, spasm of accommodation, and pericorneal injection. These effects are not troublesome in all patients and, in particular, are not prominent in patients with glaucomatous aphakic eyes. In spite of these defects the authors regard DFP as a promising alternative to eserine; it is certainly very effective, and it requires much less frequent application. They were unable to rcommend any particular dosage regime; the frequency of application must be determined by repeated checks of the intraocular tension. In their experience administration may be required only once daily, or even once weekly.

The results of Leopold and Comroe have been largely confirmed by McDonald (*Am. J. Ophthal.*, **29**:1071, 1946) in a series of careful clinical studies and by Lebensohn (*Arch. Ophthal.*, **36**:621, 1946) in a smaller number of patients—(*Brit. M. J.*, **2**:100, 1947).

Penicillin in Suppurative Conditions of the Brain

Cairns (*J.A.M.A.*, **134**:554, 1947) at the Royal Society of Medicine in a joint meeting of the Section of Neurology with the Societe de neurologic of Paris discussed the use of penicillin in suppurative conditions of the brain and meninges. It might be given by the lumbar or cisternal route or into the lateral ventricle. Unless there was blockage it would spread freely. Normally 12,000 units would maintain a bacteriostatic level for twenty-four hours, but occasionally, for example, early in pyogenic meningitis, this dose might have to be given every twelve hours. The upper limit of tolerance for crystaline penicillin had not been worked out; but heavy doses of 50,000 to 100,000 units might cause severe meningeal reactions. Such large doses could do no good and might do harm. There was never need to exceed 20,000 units in one day. Intrathecal penicillin continued for some weeks caused depression of the ankle jerks, suggesting damage to the cauda equina, which was reversible. Normally penicillin was given by the lumbar route. If there was a block, of which the most important sign was difficulty in obtaining cerebrospinal fluid by lumbar puncture, the cisternal route might be adopted. But with some head retraction this might not be easy, and blocks sometimes occurred above the cisterna magna, so that there should be no hestiation in injecting into the lateral ventricle. For pachymeningitis and subdural abscess, penicillin ws given into the subdural spaces, from which it passed about as rapidly as from muscle. Usually 8,000 to 10,000 units was injected every four hours.

Penicillin injected systemically did not pass in appreciable amounts into the cerebrospinal fluid. Nevertheless it had its value in pyogenic meningitis. It helped to combat the primary focus and the septicæmia from the primary focus or a relapsing meningitis. It helped to overcome infection of the cerebral blood vessels. Probably penicillin could pass from the blood stream into perivascular spaces of the brain and thus might be valuable in acute pyogenic meningitis (which is more correctly a meningoencephalitis). Also it might limit the spread of a brain abscess. Penicillin appeared to pass freely from the blood stream into the subdural space. Crystalline penicillin appeared to be nontoxic when given systemically. One paient received 300 million units without reaction. The sulphonamides should be given with penicillin; they were especially valuable when intrathecal penicillin was stopped. Until the diagnosis of meningitis was established bacteriologic treatment should be confirmed to systemic penicillin and sulphonamides.